

Improve the quality of your application portfolio

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Who are we?



Jochem Schultenklopper

IT Architect at Xebia for 2.5 years, IT consultant for 10+ years

Enjoys desserts, coffee and snowboarding, and shorter ideation-design-development-delivery projects. Finds opportunities to visualize things.



Gero Vermaas

IT Architect at Xebia for 12 years

Enjoys endurance sports like cycling mountains, ice skating, and longer customer assignments. The latter to benefit (or learn) from the architectural decisions he made earlier.

In todays tutorial

- We'll alternate between theory and workshops all the time
- You'll work with the same team in the workshops
- Earlier sessions learned that 3 p. teams is best
- One laptop per team is enough
- Break at 10:30 (for 20 min.)
- End at 12:30

Tutorial goal

At the end of this tutorial you will present an advice on how to improve the IT landscape of an insurance company

During today's tutorial you will:

- Learn on how to judge an application portfolio
- Assess a company's application portfolio
- Formulate advice for improving an application portfolio

Case introduction: an insurance merger

AIF (* 1963)

- Stable, large, solid reputation
- Life insurances
- Mostly B2B, ambitions for B2C
- Limited web portal, only for intermediates
- 200 employees, 40 in IT

Insured.nu (* 2009)

- Modern, growing, only online
- Non-life insurances
- Sold via intermediates and direct to end consumers
- Self-service portal
- 40 employees, 10 in IT

Case introduction: handouts (1)

More detail regarding the background of the two companies:

- History
- Merger
- Strategy, current plans
- Size of customer base

Case introduction: handouts (2)

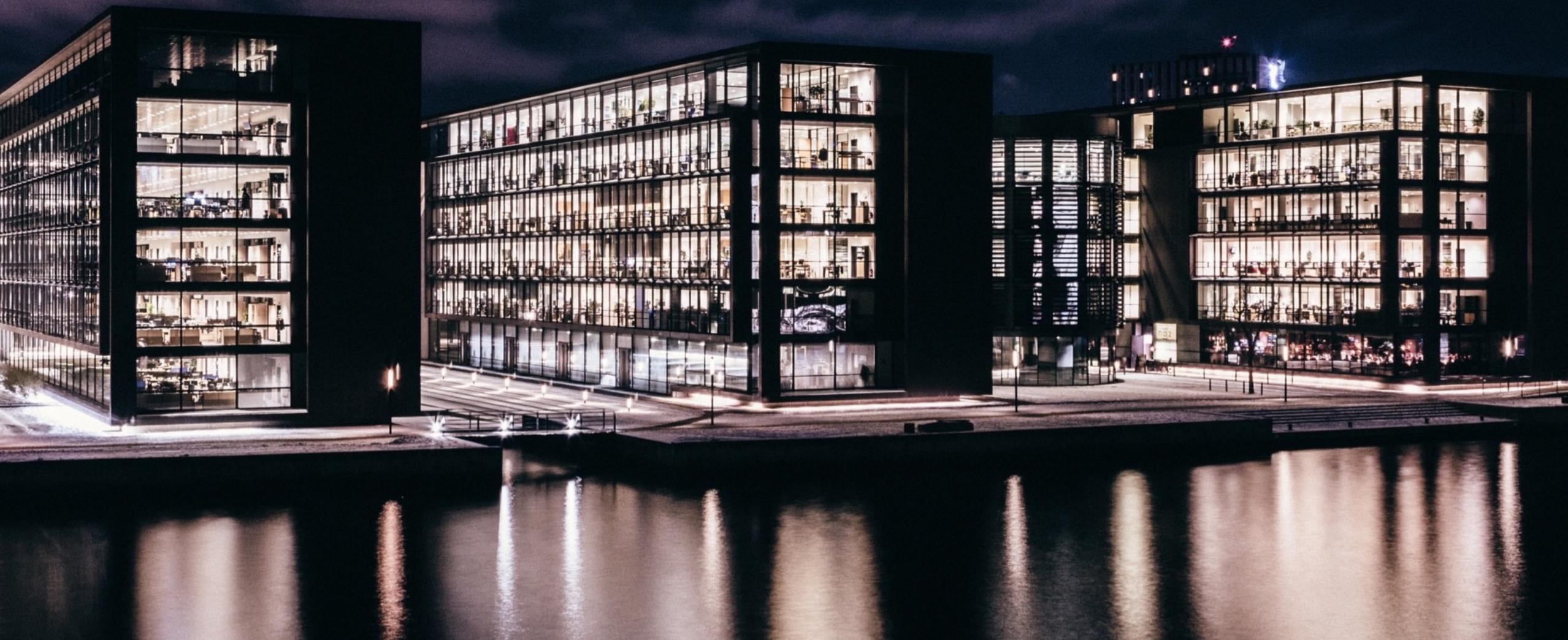
More detail regarding the applications in the IT landscape, like:

- Supplier/ technologies / hosting / size / costs
- No. of users / user satisfaction / #feature requests / #defects / future
- SDLC / release frequency / team size / team performance

Workshop 1: Group discussion

- What would you do to assess the quality of an IT landscape; the collection of applications in a company's portfolio?
- What are relevant aspects to focus on when assessing the quality of an IT application portfolio?

Everyone wants a landscape such as this...





... but most of us start with this

How to summarize our IT?

- A broad range of application of IT
- Developed with multiple and different sets of technology
- Dispersed knowledge of IT over multiple depts. and people
- Many suppliers, many IT-related departments
- Variety of stakeholders (both in Business and IT)
- Business and IT are strongly entwined

And business owners with IT-related ambitions

- New opportunities that require support by IT
- Renovation of current applications (that some call "legacy")
- Re-use of earlier investments and existing IT capabilities
- Need for effective... and even 'agile' IT

"Oh, and please use your allocated budget efficiently."

A scenic view of a canal in Venice, Italy. The image shows a narrow canal with water reflecting the surrounding buildings. On the left, there's a small arch bridge. The buildings are multi-story, made of brick or stone, with various colors like yellow, orange, and brown. Some have balconies with plants. In the foreground, a few people are walking on the paved walkway along the canal. The sky is clear and blue.

“Improving an IT landscape
is similar to
renovating buildings”

Crux of portfolio management of IT applications

Decisions related to

- What to keep?
- What to re-use?
- What to add?
- What to get rid of?

while taking business and IT strategy into account

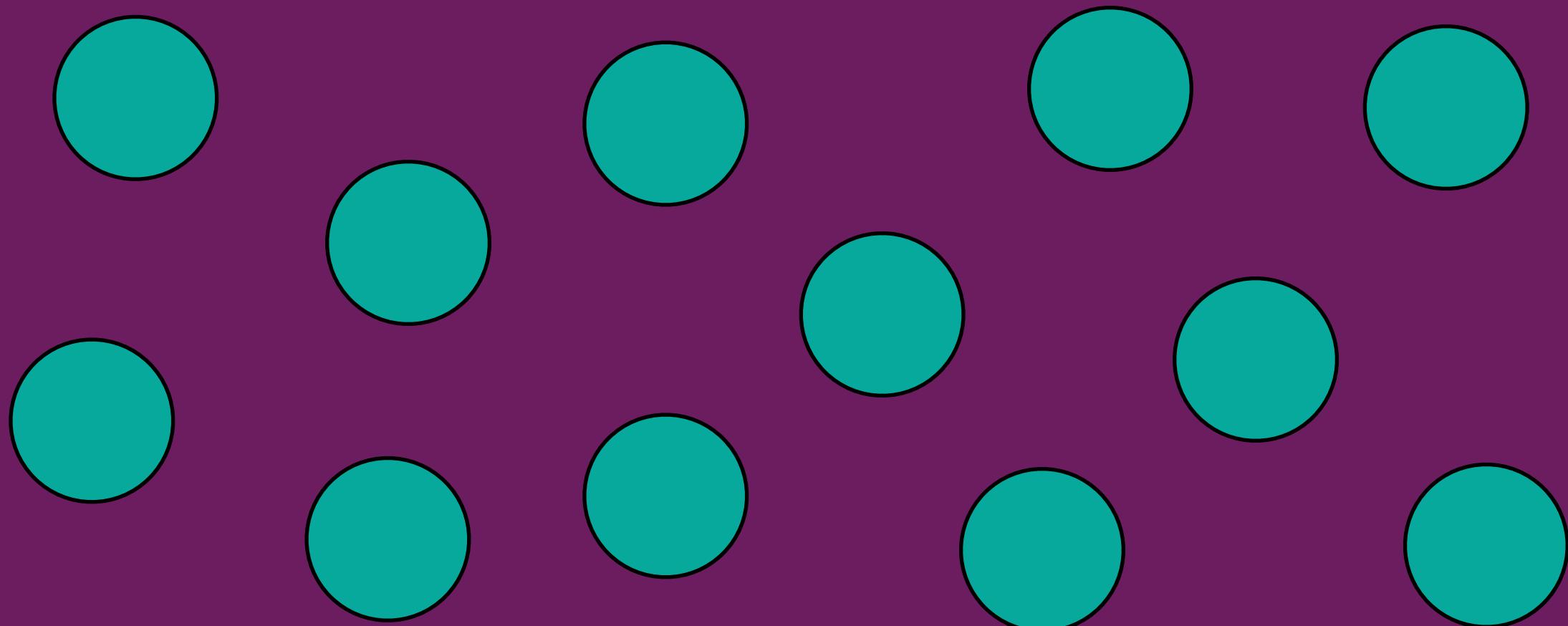
How to decide on future IT investments

Fair judgements require:

- honest treatment of complete portfolio of applications
- correct and reliable assessment of every application
- choices that match strategy of business and IT

from a realistic starting position: the current situation

Help is on the way, just in TIME*

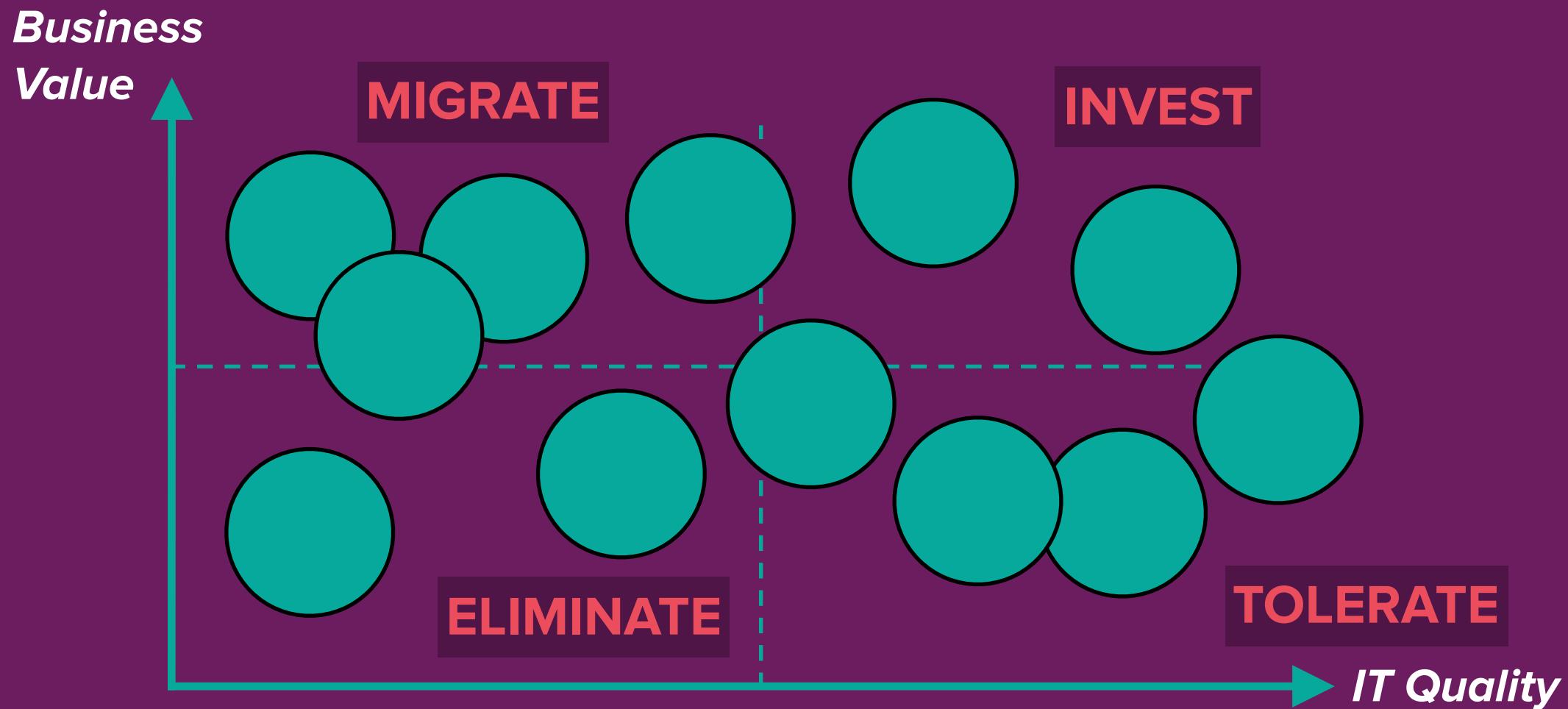


*) That's right, pun intended

*All models are wrong
but some are useful.*

- George Box

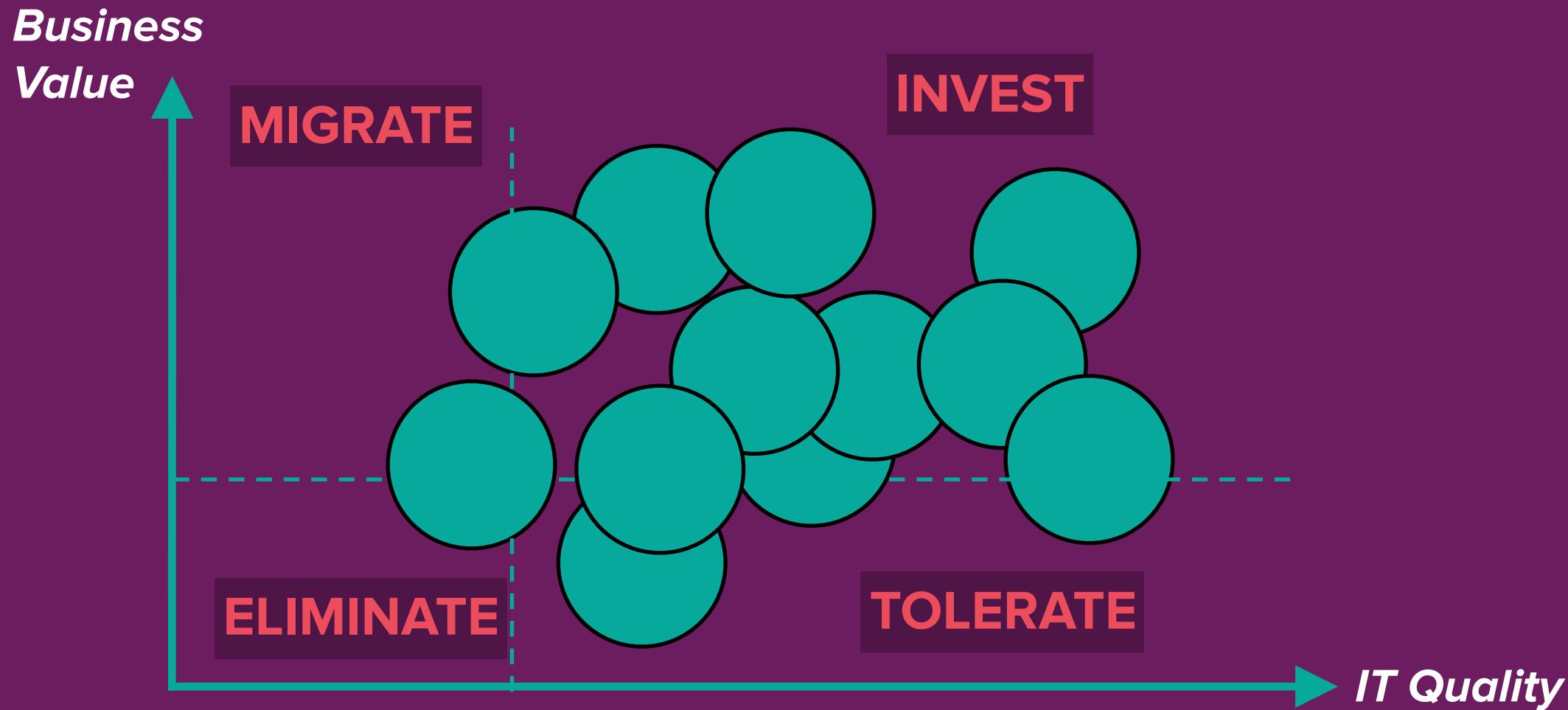
Application portfolio management model: TIME



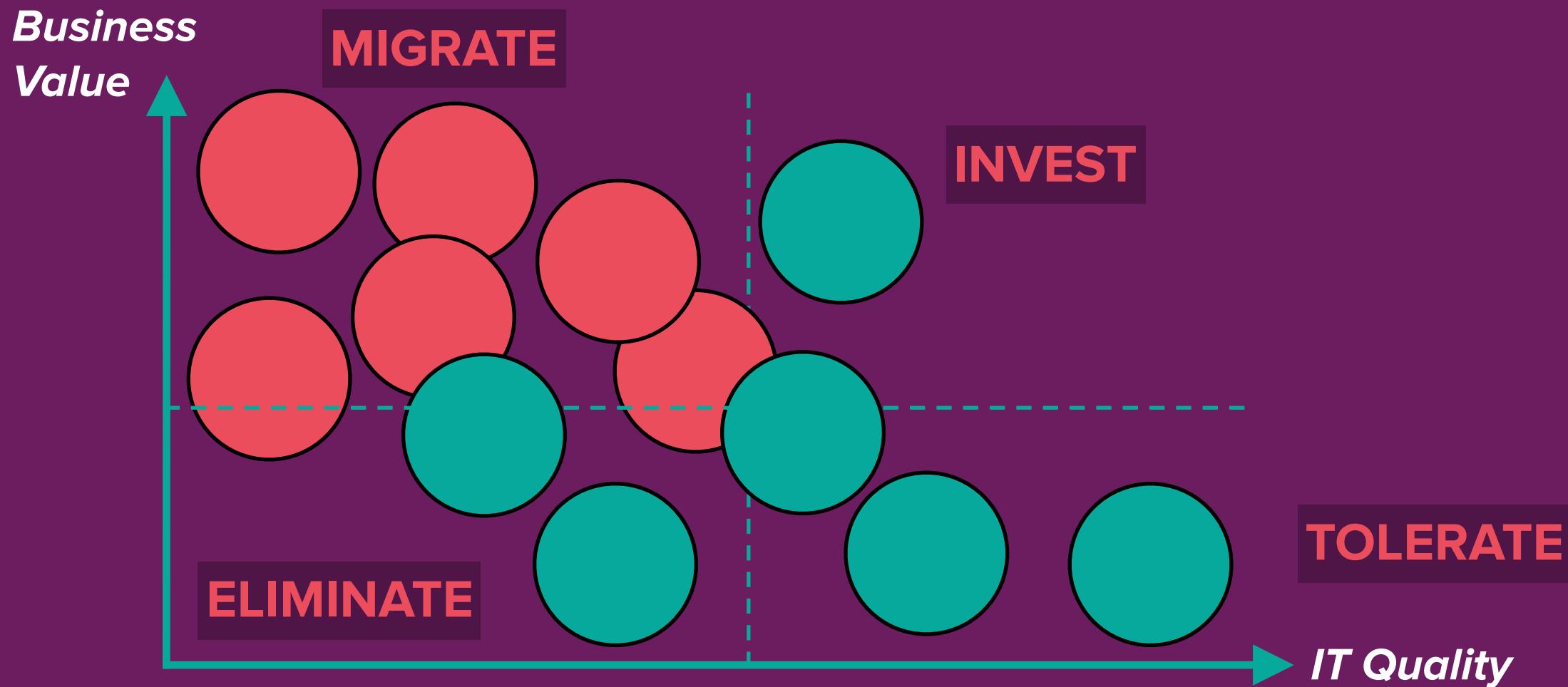
Application Portfolio Management w/ TIME

- Determine the list of applications
- Determine what counts as Business Value and IT Quality
- Score all applications in your portfolio on those two axis
- Group the applications in four quadrants with decisions on the future of those applications:
 - Tolerate
 - Invest
 - Migrate
 - Eliminate

What you might expect over time...



... but honestly, this is much more common



Workshop 2: Assess applications in IT landscape

Assess (quantify) all applications in the IT landscape on two aspects:

- Business Value
- IT Quality

Define Business Value and IT Quality so that things can be compared

Use PortfolioViz (<https://portfolioviz.com/tutorial>) to visualize the portfolio

- Give your portfolio visualization a name
- Tag this version with #1



Workshop materials available at <http://bit.ly/portfolioviz>

Feedback

How did you quantify:

- Business Value?
- IT Quality?



T.I.M.E.



Challenges in using TIME

- No clear (public) advise in measuring *Business Value*
 - Except: "determine Business Value – think of things such as ..."
- No publicly accessible instruction for determining *IT Quality*
 - Except: "determine Technical Quality – take these things into account: ..."
- No clear metric for *Application Size* / circle radius
 - There's difference in size sizes, but no clear explanation

A close-up photograph from the movie E.T. The Extra-Terrestrial. A young boy with short brown hair, wearing a light blue zip-up hoodie, is shown from the chest up. He is looking down at his right hand, which is gently holding the small, wrinkled, greyish-blue hand of the alien E.T. The alien's head is visible on the right side of the frame, showing its large, dark, bulging eyes and textured skin. The background is a solid blue.

Even more challenges for E.T.

This and previous photo: Sony Centre for the Performing Arts, Inc.

E.T. The Extra-Terrestrial is a trademark and copyright of Universal Studios.

Other portfolio management challenges

- How to assess whole portfolio correct and fair?
- Or in other words, which metrics are valid for all?
 - Business Value: regardless history, investments, previous use, expected future
 - IT Quality: regardless technology, construction, architecture, supplier, fit-for-future
- How to make wise decisions on the portfolio, and really execute them?

Other portfolio management requirements



Portfolio management should be linked to business and IT strategy

- Why are you doing application portfolio management?
- What's the reason, and what are the current goals?

Portfolio management is a continuous responsibility

So, you want to ‘measure’ your portfolio recurringly and ...

quickly – preferable in days, not weeks or months

cheaply – possible without too much (external consultancy) hours

overall – done for the whole portfolio

not too detailed – measuring value and quality isn’t science

*All models are wrong,
but still, some are slightly better..*

- @gerove,
@jschulenklopper

Some adjustments to the TIME model

1. Simple process for determining *Business Value*
2. Modern metric for *IT Quality*
3. Explanation for *Application Size*

plus...

4. Better terms for decisions about applications
5. Some broad directions on how to improve your portfolio
6. Make it quick, cheap, broad, generic... so worthwhile to do regularly

0. Portfolio management starts with strategy

Goal of portfolio management depends on situation, goals and plans

- Follow-up on merger ← *today's case*
- Pursue new market, develop new service
- Seek cost savings
- Prepare for company sale
- Anticipate declining market

1. Determining *Business Value*

Biggest challenges:

- What is our interpretation of "value for business"?
- How to get consensus over *Business Value* over many applications, many stakeholders, many stakes?
- How to balance current situation, strategy and future (value)?

Application	Start	Hand in	Claim	Distribute	End score
PA-schade	***	***	*** + +	*****	*****
PA-reis	***	***	*** +	****	****
CA-overall	***	***	*** +	****	*****
DunnIt	***	** —	**	**	**
IPSchil	***	** —	**	**	**
CustomerWeb	***	***	*** +	****	****
IntermediairyWeb	***	** —	**	**	**
InsuredApp	***	* — —	*	*	*
Salesforce CRM	***	***	***	***	****
Twinfield	***	** —	** +	***	***
eDocCabinet	***	* — —	*	*	*
<i>available</i>		0	8	(8)	2
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A process for "ranking applications"

- Make a list of the applications in your portfolio
- Award three 'stars' to all applications
- Application business owners hand in (!) stars
 - + express need / claim for more starts
- Collected stars are being distributed over claims
- Iron out the last wrinkles (unmatched stars, unmet claims)

Business

Value

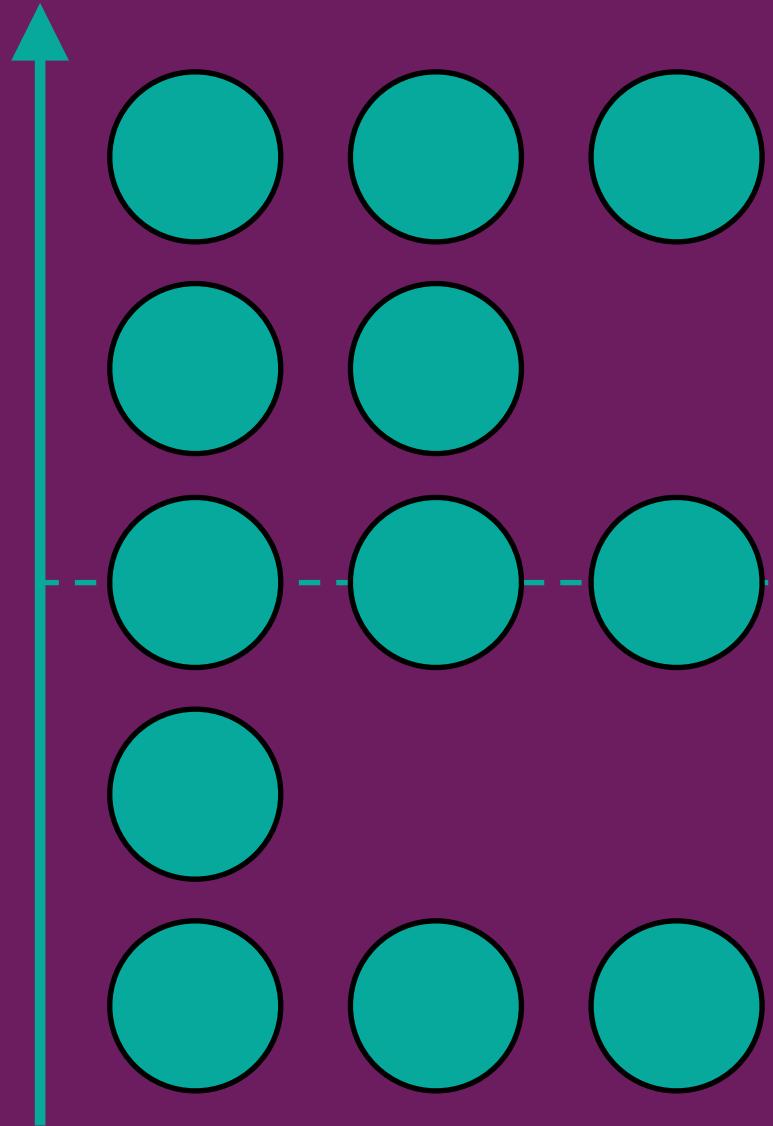
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2. Determining *IT Quality*

Challenges (since applications are measured on same scale):

- one metric that holds for all types of applications
 - developed in-house, or by external supplier
 - standard solution, but with custom-made adaptations
 - Commercial of the Shelf (COTS) solution
 - some Software-as-a-Service solution
- a metric that is determined reasonably easy and quick

Quality in an agile IT landscape



Speed* with which an organization can transform

- new feature requests
- changes requirements
- bug fixes

from "idea" (or: agreed upon) to "live in production"

Quality \approx low Time-to-Market

*) or energy or costs

$1/\Delta t_{change}$ as metric for IT Quality

- + Reasonable easy and quick to determine
- + Valid for all (types of) applications
- + Interpretation is similar across whole portfolio
- + It's technology-neutral

plus

- + It includes organization, team, process and context
- + Accounts for speed and decisiveness, lack of "waste" in processes
- + **It's a modern metric, fitting an era in with businesses strive for agility**

*Business
Value*

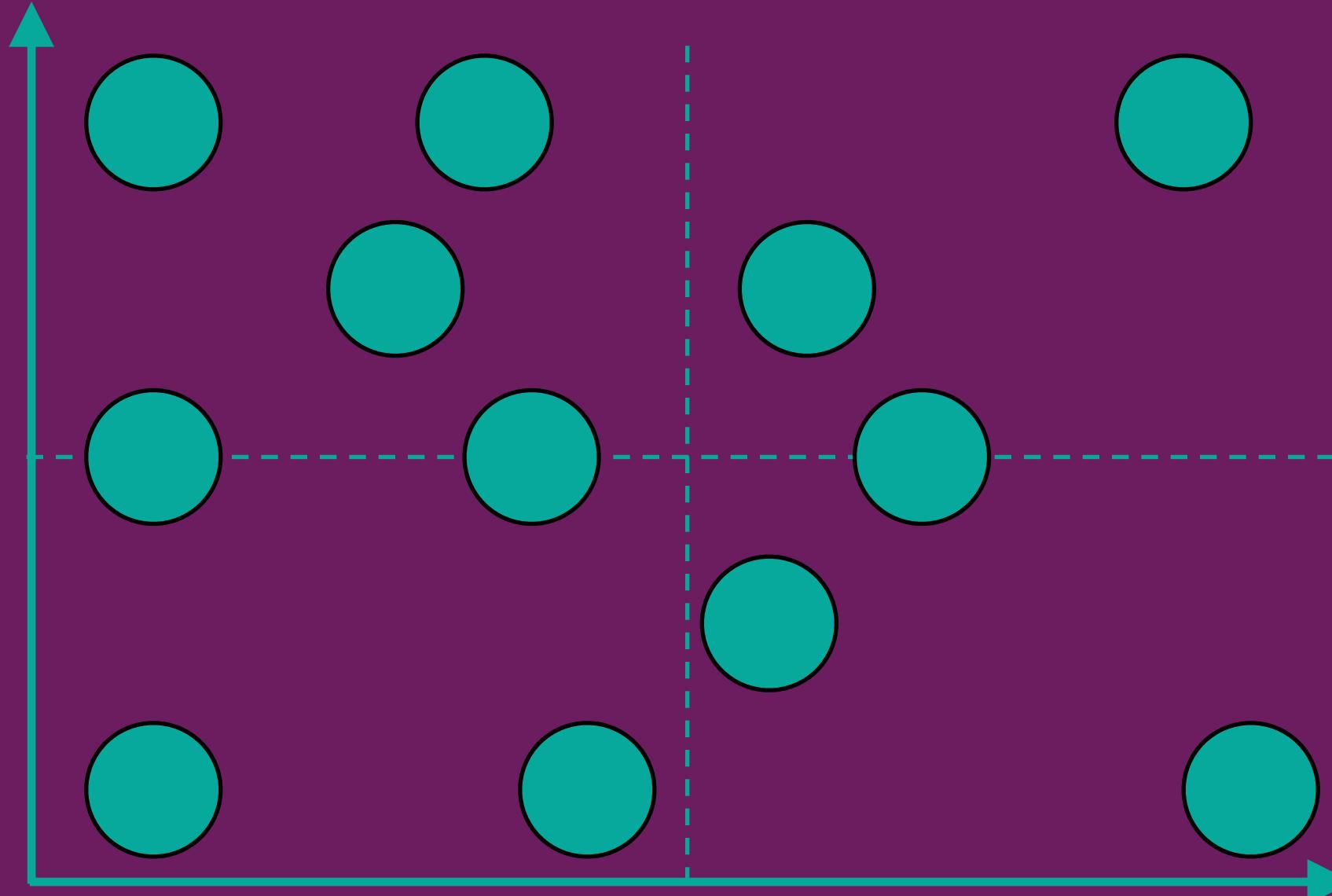
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IT Quality
 $(1/\Delta t_{change})$

3. Determine Application Size

Crux: size of circle as indicator of *effort* required to improve application

Examples:

- size code base or database, # FP's
- number of integrations, external interfaces
- hours / costs (already invested, budget)
- size of user group, development team

Business

Value

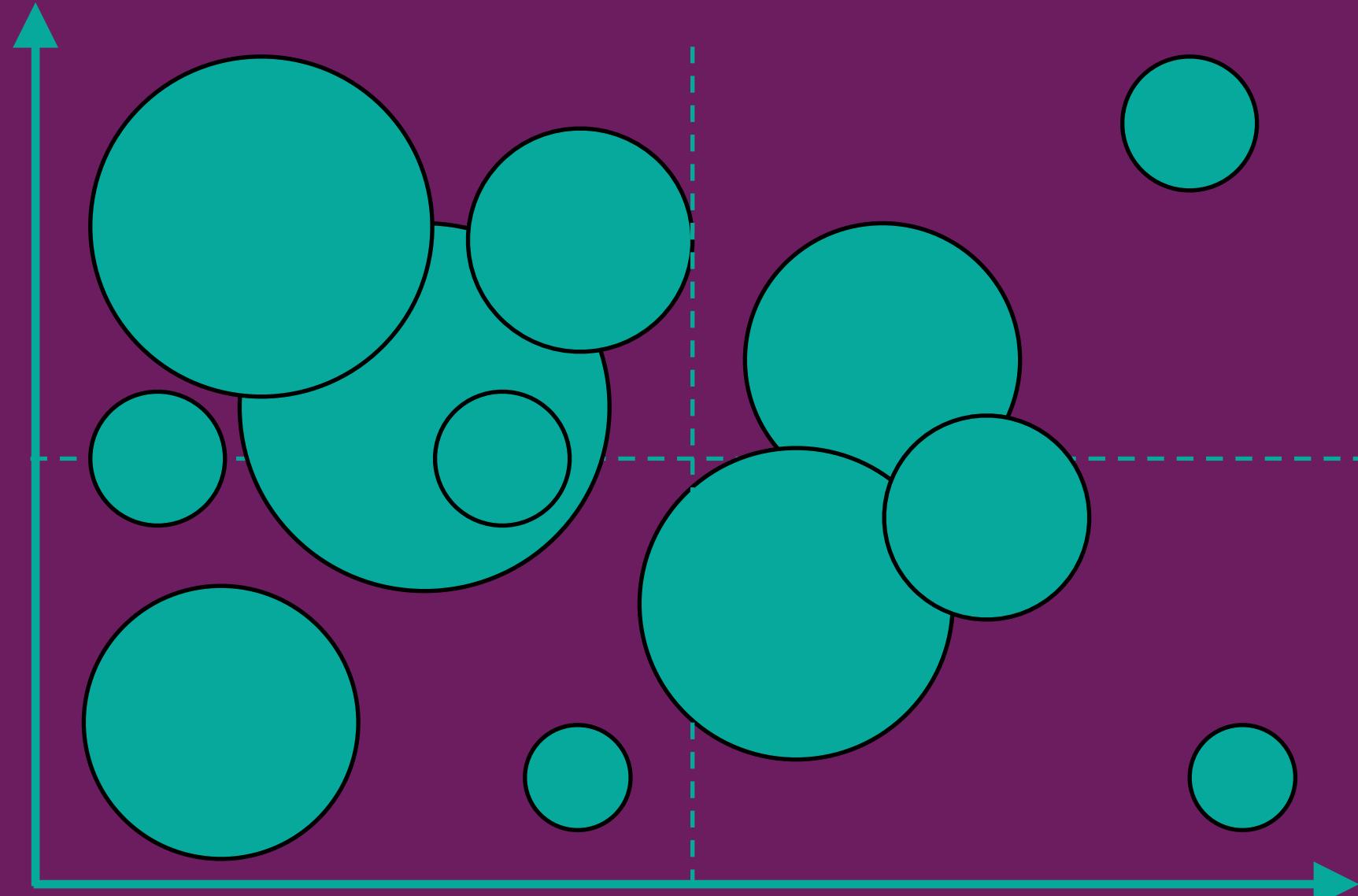
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IT Quality
 $(1/\Delta t_{change})$

4. Better terms for portfolio decisions

~~Tolerate~~

Accept

[more positive, respectful term]

~~Invest~~

Maintain

[investing isn't certain yet]

~~Migrate~~

Improve

[improving could be more efficient than migrating to alternative]

~~Eliminate~~

Phase-out

[suggests phased, gradual approach]

Business

Value

IMPROVE

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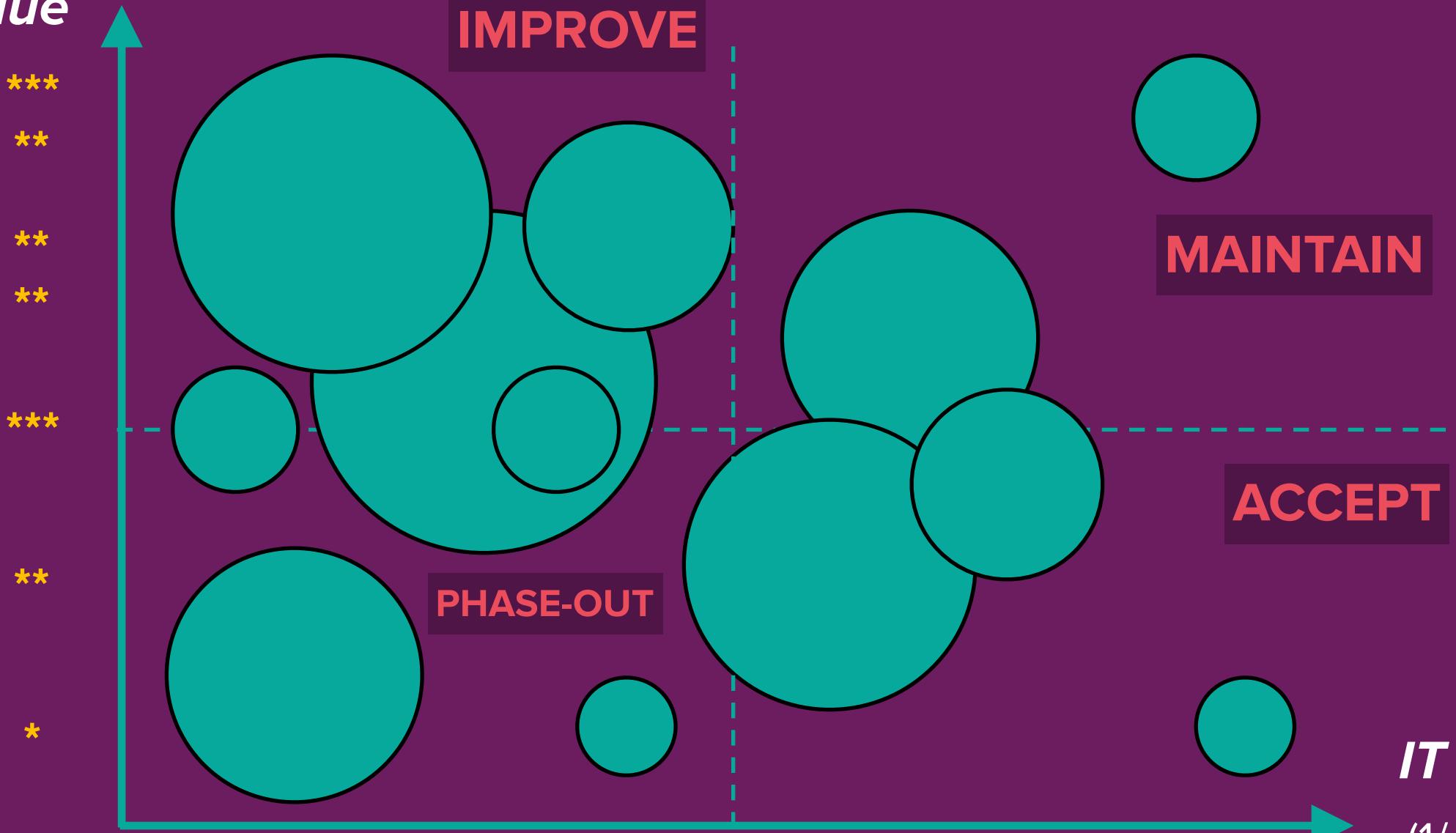
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MAINTAIN

ACCEPT

PHASE-OUT

IT Quality
 $(1/\Delta t_{change})$



Workshop 3: Quantify Business Value and IT Quality

For each application in the IT landscape, quantify:

- Business Value
- IT Quality
- Application size

using the methods explained earlier

Again, visualize the portfolio in PortfolioViz

- Tag with #2

Workshop materials available at <http://bit.ly/portfolioviz>

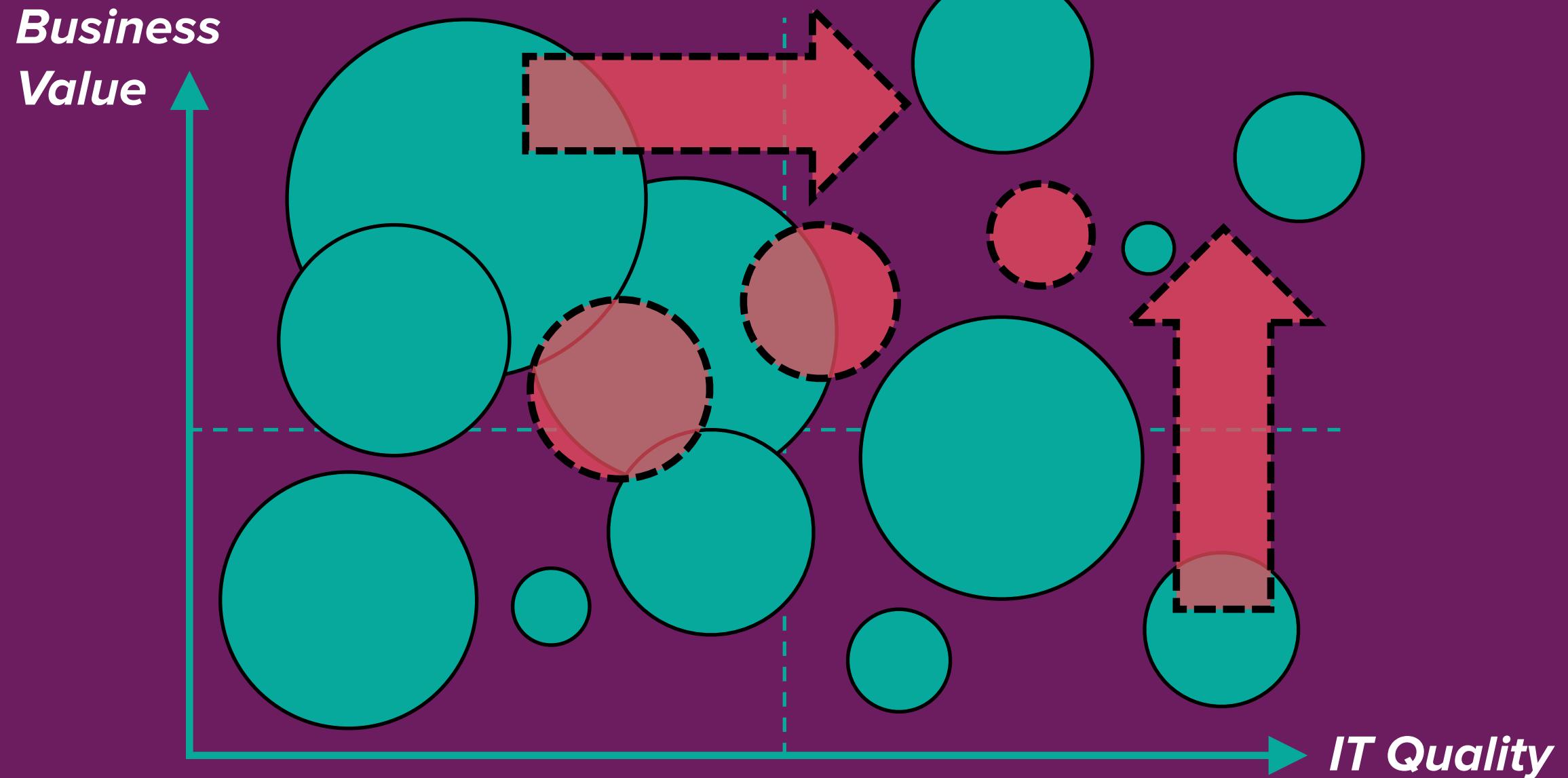


Feedback

Think about this:

- Have you been able to assign Business Value and IT Quality values?
- What metric did you use for application size?

Three classes of portfolio improvements



Improving (applications in) a portfolio

- Increase *Business Value*
 - more efficient / effective use of existing IT, leveraging IT quality
 - 'digital transformation' of business through IT
- Improve *IT Quality*
 - improve quality while keeping functionality
 - 'renovation' of applications
- Reduce *Application Size*
 - divide application in more, but smaller parts
 - not a direct improvement, but it's a preparation for more efficient and effective future improvements
 - business-originating argument for 'refactoring monolith' into smaller services

5. Improving IT Quality

If

$$\text{quality} \equiv 1/\Delta t_{change}$$

then

$$\text{higher quality} = \text{lower } \Delta t_{change}$$

What influences Δt_{change} ?



What influences Δt_{change} ?

Technology of application:

- Software architecture
- Application platform
- Software code
- Infrastructure
- Documentation



...but there's much more that takes time

... but there's much more contributing to time

- Organization / processes around determining requirements
 - Indecisiveness, tardiness, complexity
- Processes of IT analysis and design
 - Capacity, analysis paralysis, domain knowledge, interdependencies
- Processes and support of IT development
 - Velocity of coding – testing – deployments – release
- Knowledge, skills, capabilities, motivation of teams

Determine the steps that take most time*...



Make Value Stream Map from "idea" to "production"

Lead time* is determined by

- organization, teams, people
- processes
- architecture
- software
- infrastructure
- documentation
- ...

... and advice on improvements after analysis

- a. Where's the biggest factor of lead time?
- b. Where can the biggest gain be found?
- c. How can that gain be realized 'most easy / cheaply'?

Especially so for applications with

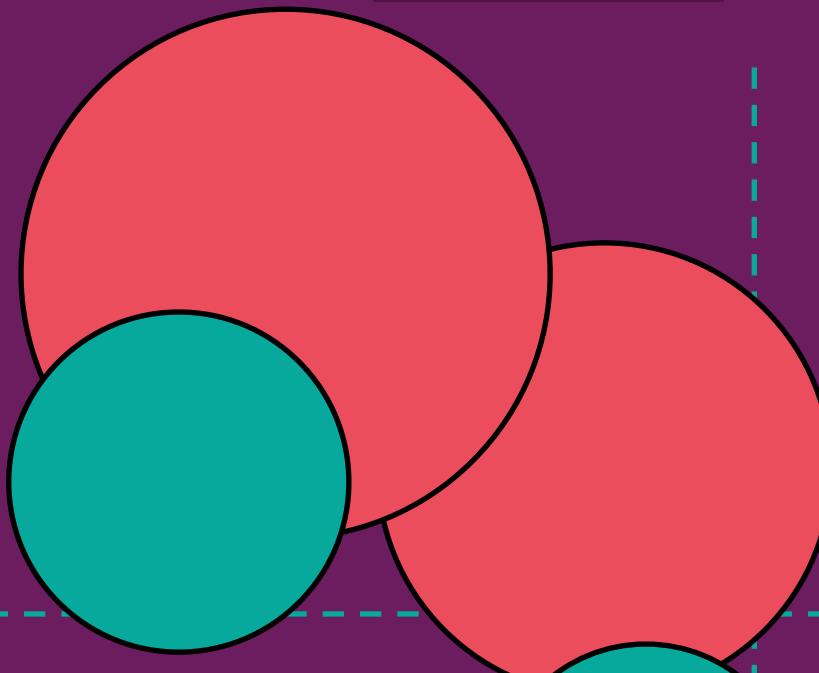
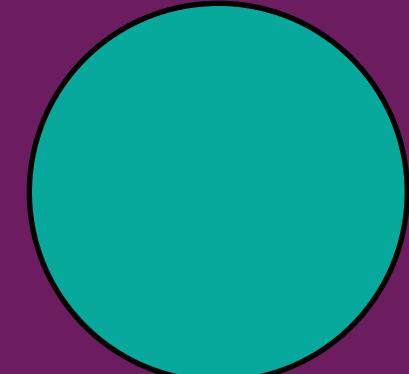
- High *Business Value*
- Inappropriately low *IT Quality*

and where the proposed changes match business and IT strategy

*Business
Value*

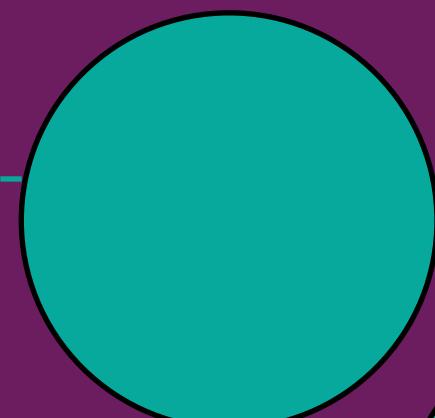
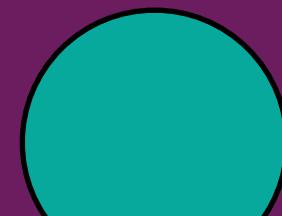


IMPROVE



PHASE-OUT

IMPROVE



ACCEPT

MAINTAIN



IT Quality

Workshop 4: Improve application portfolio

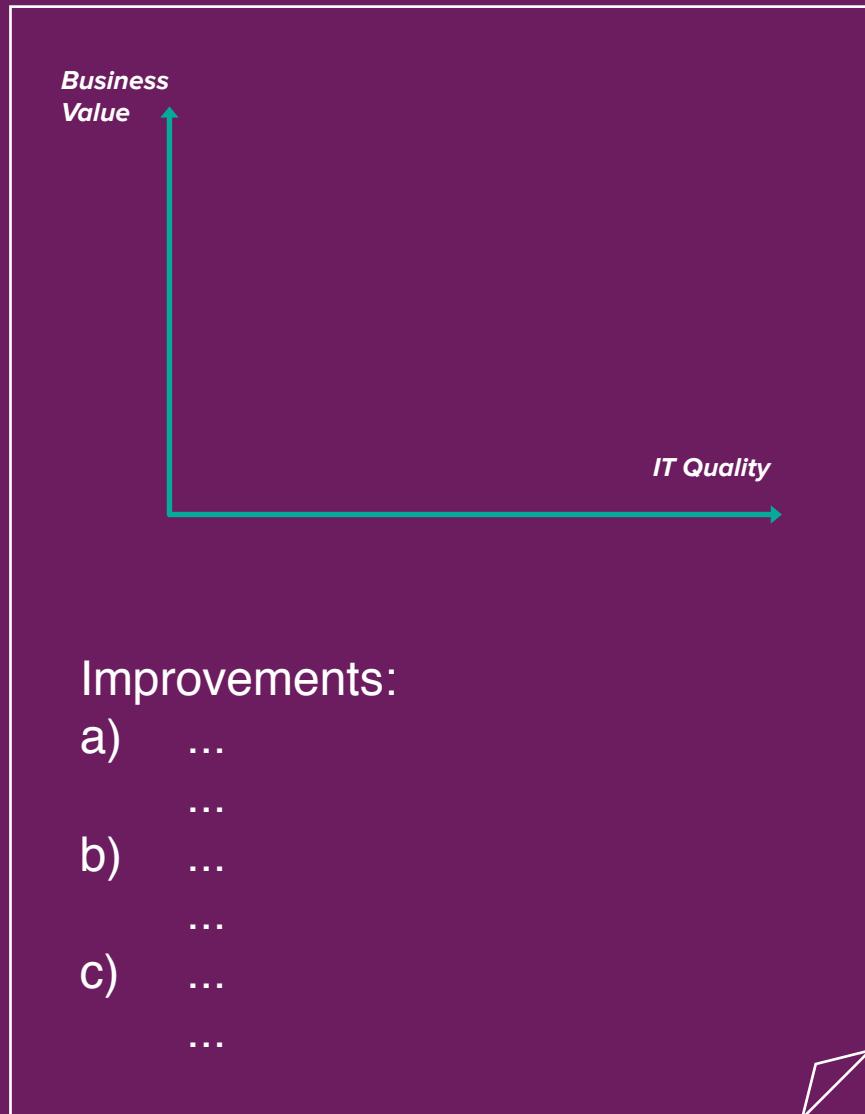
What approach would you apply for which applications:

- Increase *Business Value*, or
- Improve *IT Quality*, or
- Reduce *Application Size*

Illustrate the new portfolio with on flip-over sheet

- Mention improvement projects
- Be ready to present it to the group

Example flipover sheet (template)



Present your advice (3 minutes) per group

How should the insurance company improve its IT landscape?

- Where and how can Business Value be increased?
- Where and how can IT Quality be improved?
- Which applications should be decomposed?
- And in what sequence should this be done?

Important: link improvements to business strategy and IT strategy

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