DEVELOPING DIGITAL CAPABILITIES

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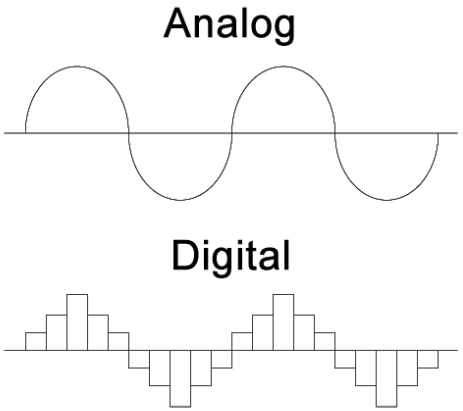
AGENDA

- What is digital and what are the challenges?
  - The digital economy
  - The difference between digital and IT
- What does it take to be successfull in the digital economy?
  - Who is successfull – some stories
  - What do they do differently?
- Developing digital capabilities
  - Dynamic capabilities
  - The role of IT organization for dynamic digital capabilities

WHAT DOES DIGITAL MEAN?



WHERE DOES IT ALL COME FROM: THE DIGITAL ECONOMY

- Digital innovation: new realities shape the digital economy

- Digital innovations are … ?
  - more radical
  - faster than usual

  } disruptive
  - causing shifts in consumer's apprehension of value
  - blurring the line between physical and digital

- Common examples for disruptive digital innovations?

IT VERSUS DIGITAL

- Traditional IT organizations
  - In-house systems
  - Increasing efficiency of production and administration

- Modern IT organizations
  - Integration of suppliers (SCM) and customers (CRM)
  - Optimization of the value chain

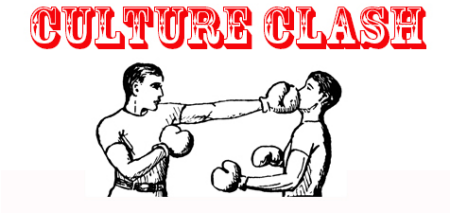
- Is that enough for digital success?

THE DIFFERENCE BETWEEN IT AND DIGITAL

- IT traditionally focused on penetrating everything across organizations apart from one area: the **products and services** offered by the organizations

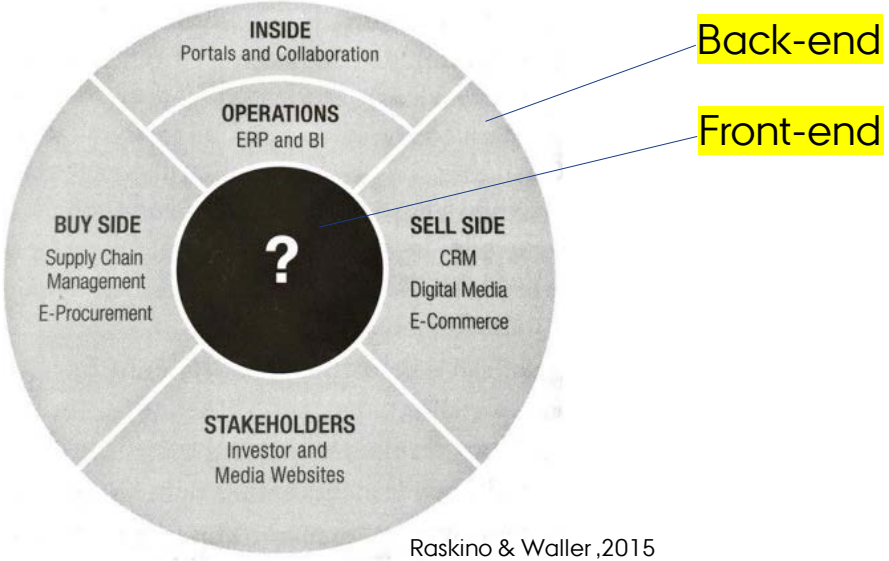
- How well is your IT department suited to go “out of the comfort zone” and contribute directly to product and service innovation?

- How well is your organization aligned to work with IT on new developments?



FRONT-END SYSTEMS VS. BACK-END SYSTEMS

- Focus shifts from back-end to front-end: from IT to digital



Raskino & Waller ,2015

HOW TO REACT– OR PREPARE?

- IT strategy is NOT a digital strategy
- IT capabilities are NOT digital capabilities
- IT departments are (probably) NOT digital departments

- A digital edge is more than automation of processes: new combinations of physical and informational resources to create value in the form of innovative products or services

- Focus: not automation but transformation of processes

- Organizations have to develop **digital capabilities** to successfully compete in the digital economy

DYNAMIC CAPABILITIES

- Dynamic capabilities are described as an organization's ability to "create new products and processes and respond to changing market circumstances" (Teece and Pisano 1994)

- In the digital economy, markets are changing fast, abruptly and radically
- Sustainable competitive advantage is no longer achievable

- Dynamic capabilities are a vague concept based on three specific foundations
  - Sensing
  - Seizing
  - Transforming

FOUNDATIONS

- **Sensing**

The ability to identify and shape opportunities and threats through *local* and *global* scanning, searching and exploring across technologies and markets (Teece 2007)

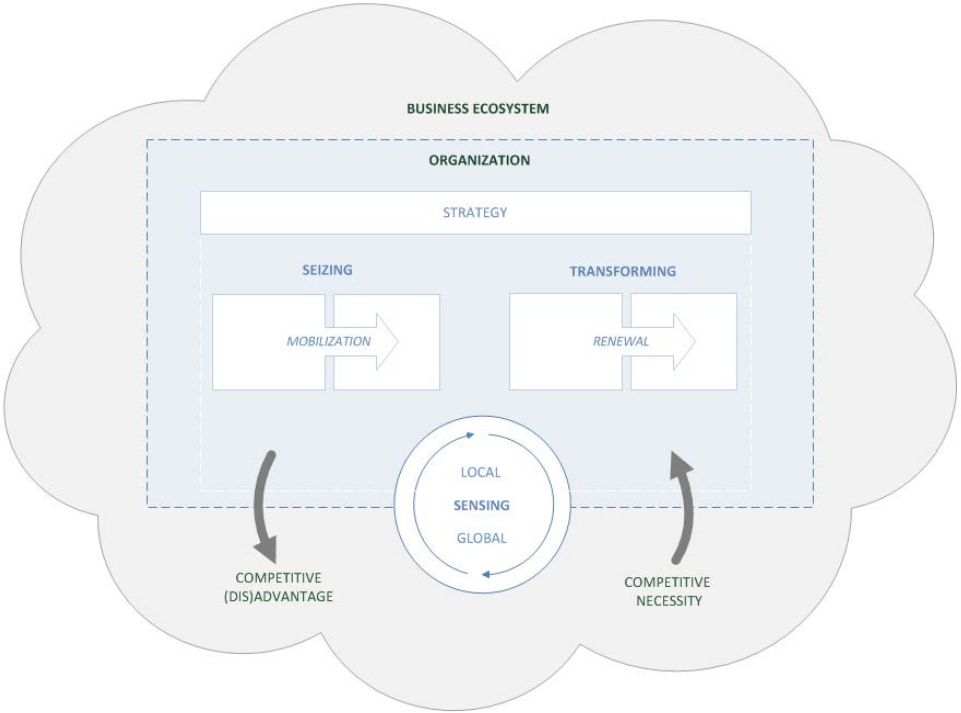
- **Seizing**

The ability to address the opportunities sensed by *mobilizing* existing resources to create new products, processes and services and preceding commercial activities such as business model design (Teece 2014)

- **Transforming**

The ability to *renew* the resource base, assets and organizational structure through transformation (Teece 2007)

DYNAMIC CAPABILITIES IN A NUTSHELL



DYNAMIC DIGITAL CAPABILITIES?

- **Dynamic digital capabilites** are related to the sensing, seizing and transforming with regard to new digital business opportunities
- Crucial point for organizations: **who** is in charge of digital?
- In many cases the IT department lacks competence / capability
- New models are required to **organize for the digital economy**

EXTRACTS FROM SUCCESS STORIES

- On the basis of multiple cases studies across various industries
- Banking, Manufacturing, Real-estate, etc.

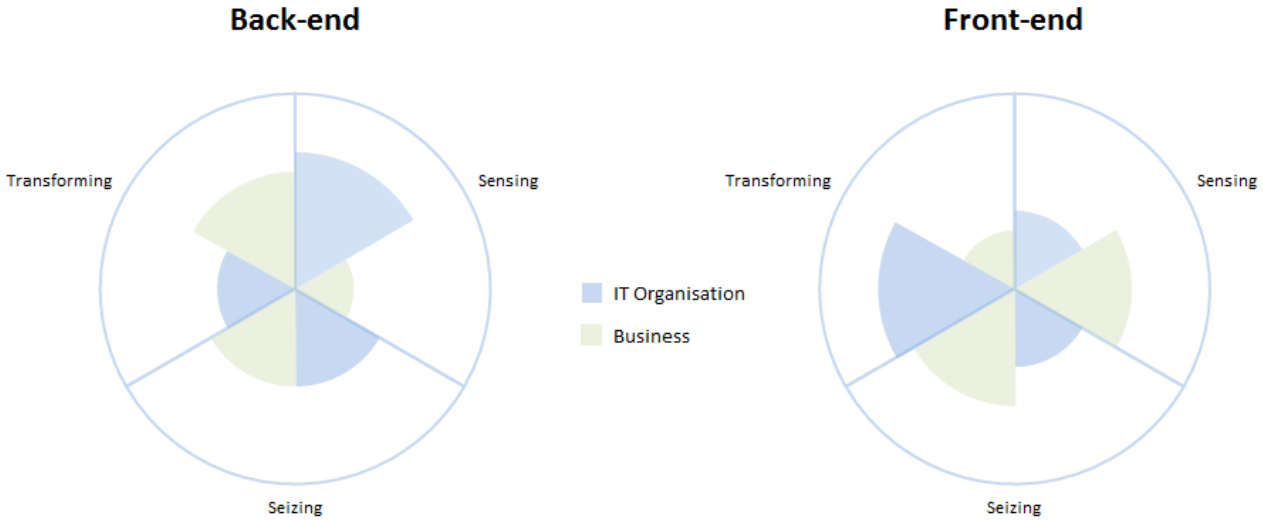
Three models to learn from

- The startup/SME model
- The bi-modal/multi-modal model
- The digital IT-department model

THE STARTUP – SME MODEL

- Everybody collaborates, IT is everywhere = digital
- Driver: size, entrepreneurship culture
- Traditional approach: growth requires standardization and functional structures
- Digital economy: keep structures out as long as possible and aim for constant collaboration (NOT cooperation)
- Risks: growth requires organizational structure, too big too collaborate

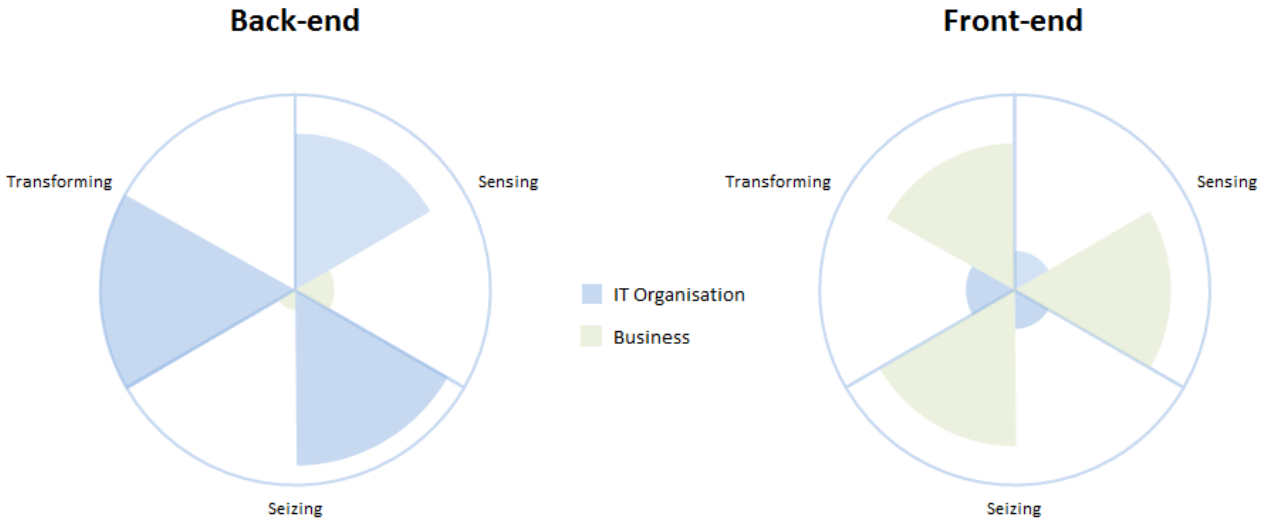
THE STARTUP – SME MODEL



THE BI-MODAL/MULTI-MODAL MODEL

- Create a two-speed IT architecture: stability and innovation are separated
- Driver: path-dependency, financial concerns, industry pressure
- Traditional IT department keeps business as usual, development and maintenance of stable back-end systems, focus on quality
- Front-end department ("R&D", "Digital", etc.) focuses on innovation: free from constraints, focus on time-to-market
- Risks: easy to say, hard to do; translation of innovation into stable architecture is critical (tri-speed architectures…)

THE BI-MODAL/MULTI-MODAL MODEL

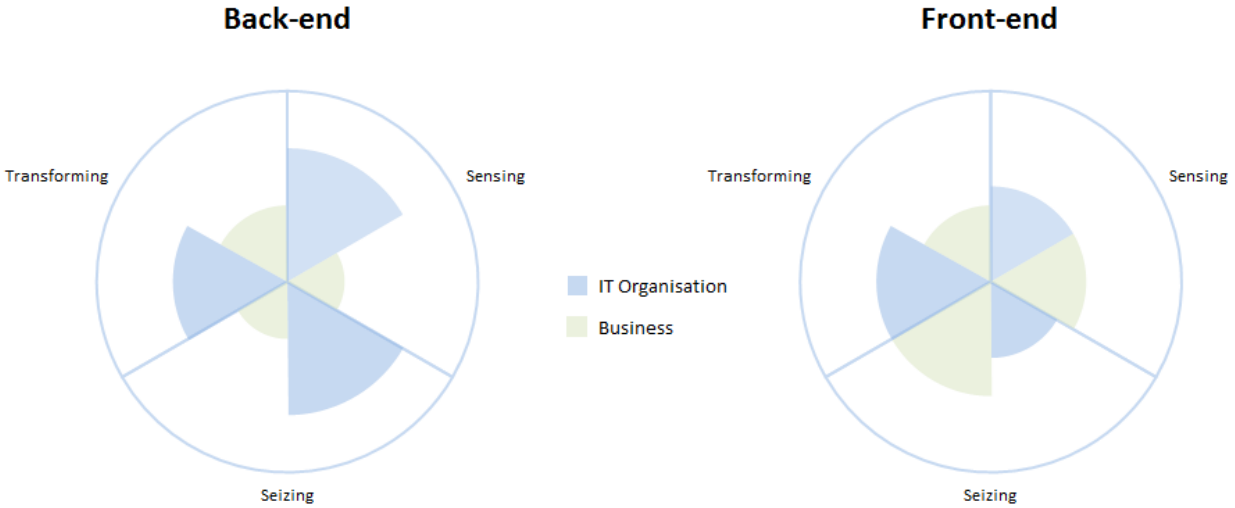


THE DIGITAL IT-DEPARTMENT MODEL

- Develop traditional IT department to include digital capabilities
- Driver: no time pressure (perceived), institutional/organizational pressure, politics
- IT department keeps business as usual, development and maintenance of stable back-end systems, focus on quality

  AND
- IT department develops front-end competencies to support digital innovation of products and services: IT department becomes involved in many decision processes and activities
- Risks: breaking up organizational inertia; cultural change in IT and Business necessary; blame-game, misalignment

THE DIGITAL IT-DEPARTMENT MODEL



GENERAL CONSIDERATIONS

All models try to answer the same underlying questions:

- How can organizations prepare or react to rapidly changing markets (to new digital business models)?

- Who is allowed to/encouraged to/in charge of sensing, seizing and transforming new opportunities?

BUT: all three models have to be broken down into actual operational processes = microfoundations of dynamic digital capabilities

ONGOING AND FUTURE WORK

- Can we learn more about the actual microfoundations and processes that make organizations digitally agile?
- Our case studies provide some rich insights but more work necessary; currently ongoing in insurance, banking, retail; interested? > nikolaus@mgmt.au.dk
- Particular focus area: decision process for evaluating new threats and opportunities – intersection between sensing and seizing
- Any questions and comments are welcome!

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