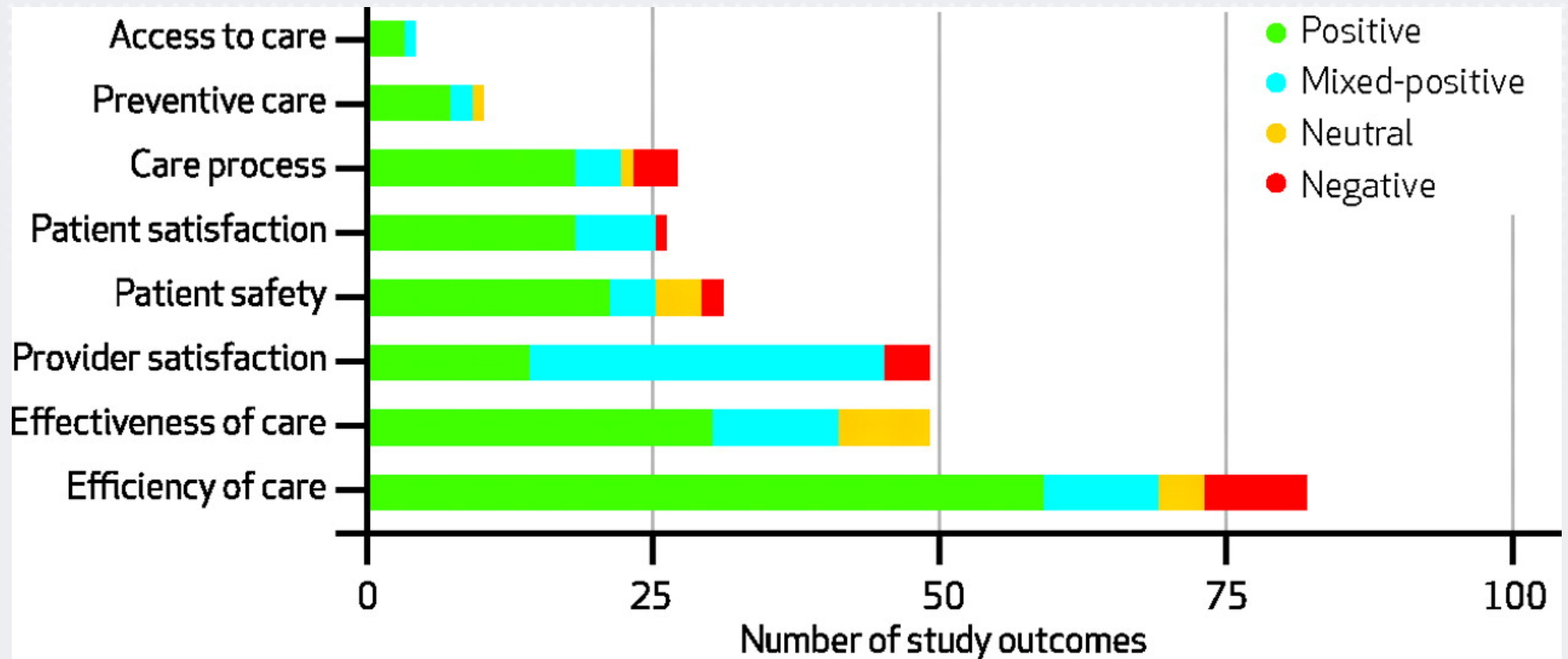


# Healthcare: Areas for Improvements



**Evaluations Of Outcome Measures Of Health Information Technology, By Type And Rating.**

Melinda Beeuwkes Buntin et al. Health Aff 2011;30:464-471

# Business Process Management

## Business Process Management (BPM)

What is it?

# Business Process Management

- A disciplined approach to
  - identify, design, execute, document, measure, monitor and control (both automated and non-automated) business processes
  - to achieve consistent, targeted results aligned with an organisation's strategic goals

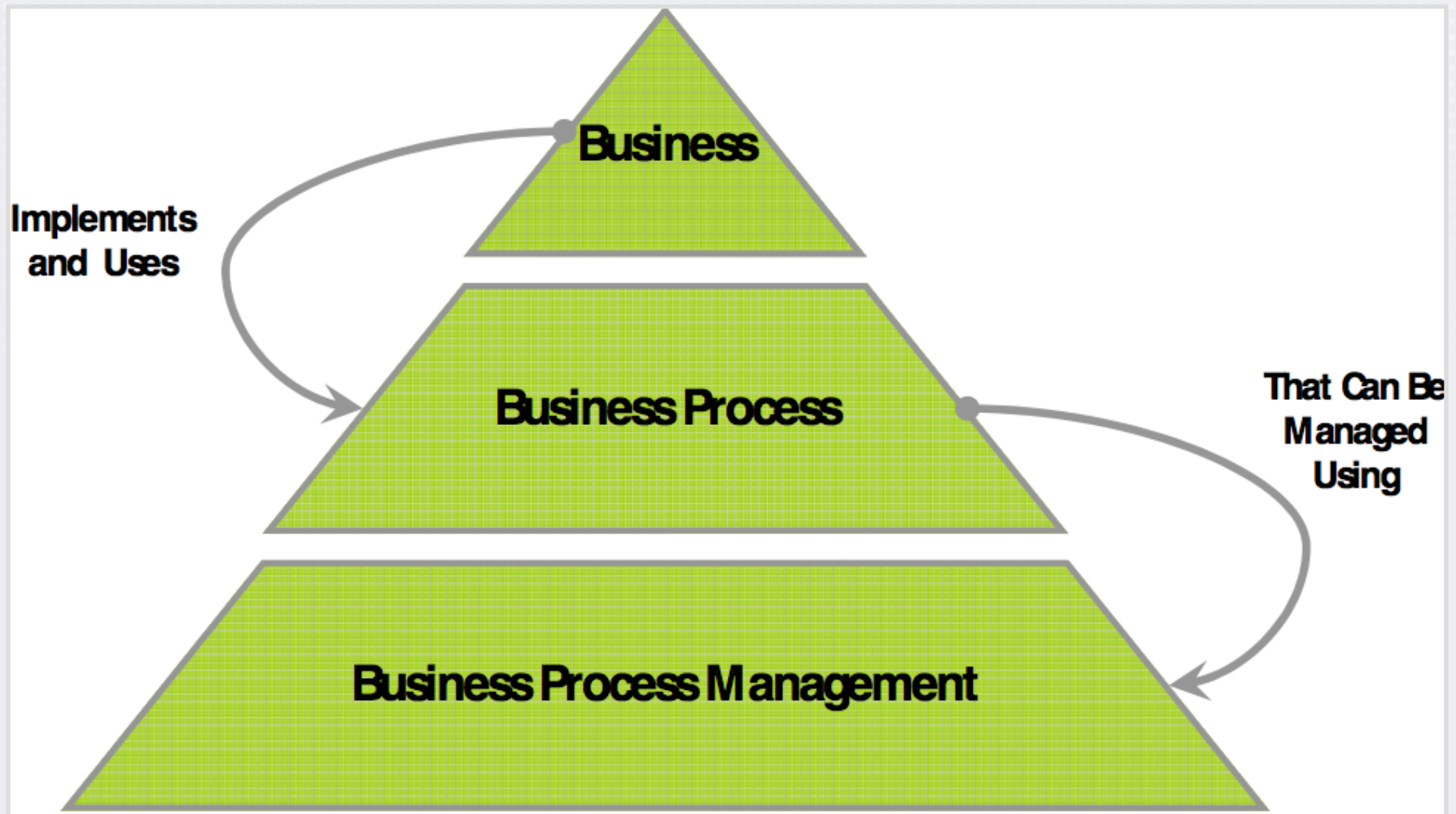
(Ref: Association of Business Process Management Professionals-ABPMP)

# Business Process Management

- Involves
  - the collaborative and **technology** aided **mechanisms**,
  - improvement, innovation and management of end-to-end business processes
  - examining business processes that drive business results, **create value** and enable an organisation to meet its business objectives with more **agility**
- Enables an enterprise
  - to align its business processes to its **business strategy**,
  - to improve overall company **performance** through improvements of specific work activities either within a specific department, across the enterprise or between organisations

(Ref: Association of Business Process Management Professionals-ABPMP)

# Business Process Management



# Business Process Management

## Motivation

Do we need BPM?

A mechanism to address Healthcare issues?

# Motivation: Why BPM?

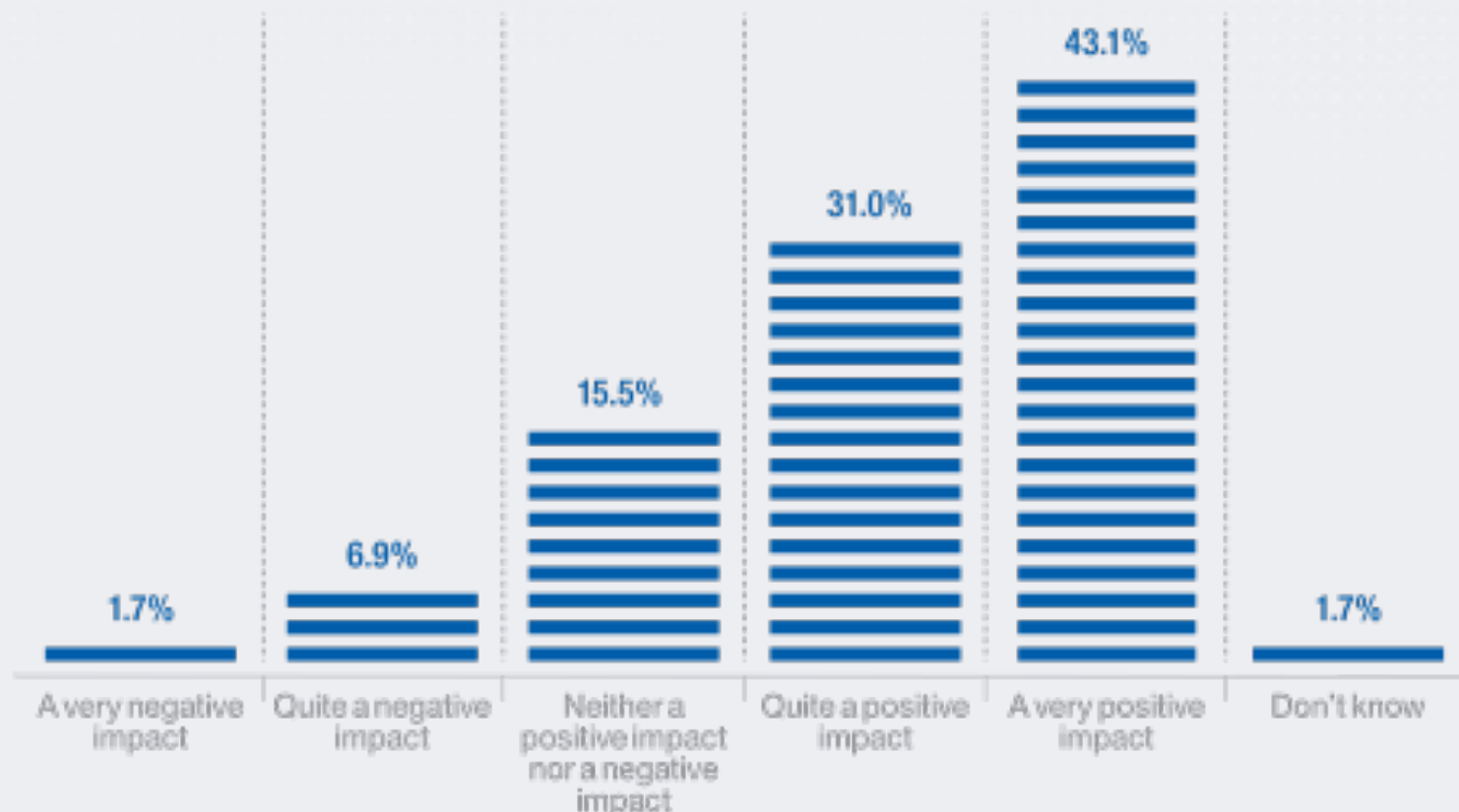
- To identify key benefits of BPM
- Capgemini, and FreshMinds, conducted a quantitative and qualitative study [capgemini, 2012]
  - in 11 EU markets/countries,
  - in 10 sectors, including,
    - telecommunications, media and entertainment , utilities, energy and chemicals, professional services, and Healthcare
  - involved 1000 employees



# Cost-efficiency

**74%** of businesses that introduced BPM to **reduce manual work** and **increase automation** reported a positive impact

*What impact has this BPM initiative had on your business from the following perspective:  
Improving process performance by reducing manual work and increasing automation?*



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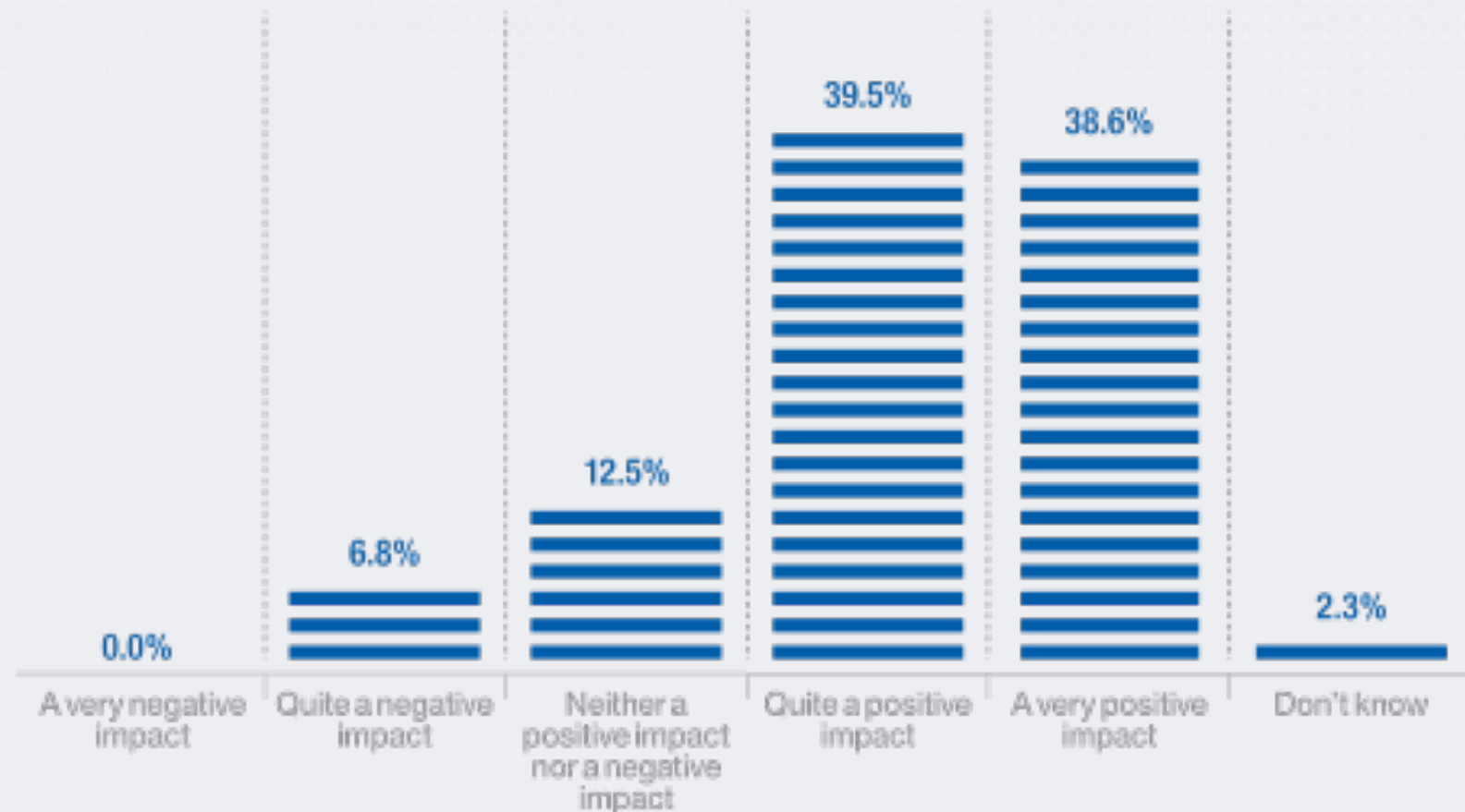
**HiCure**



# Business Agility

**78%** of businesses believe their BPM investment improved the **flexibility** of the organisation

*What impact has this BPM initiative had on your business from the following perspective:  
Improving the flexibility of the organization?*



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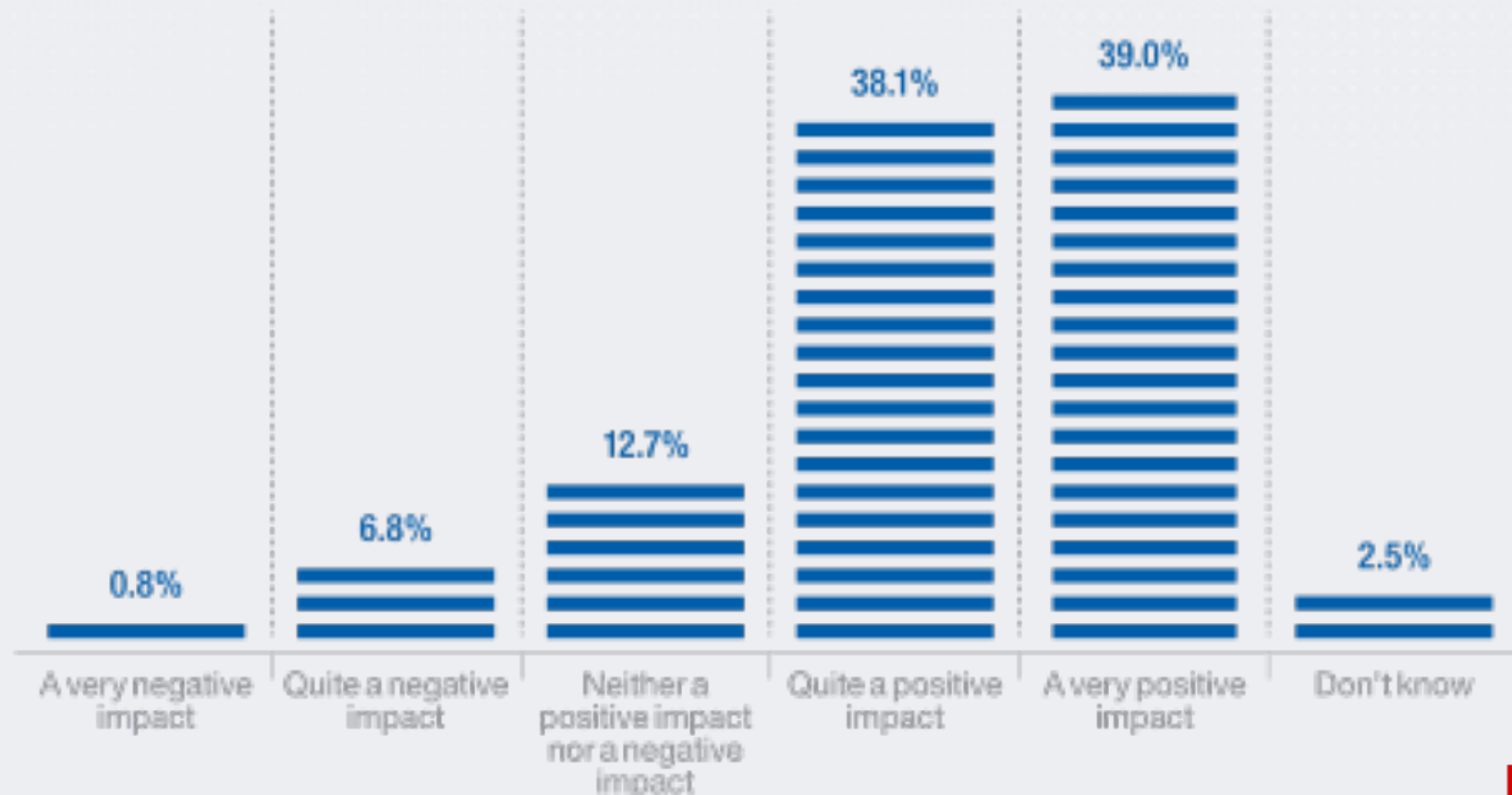
21

**HiCure**

# Compliance and Risk management

**77%** of businesses that introduced BPM to improve **compliance** and **risk management** reported a positive impact

*What impact has this BPM initiative had on your business from the following perspective: Improvement of compliance and risk management?*



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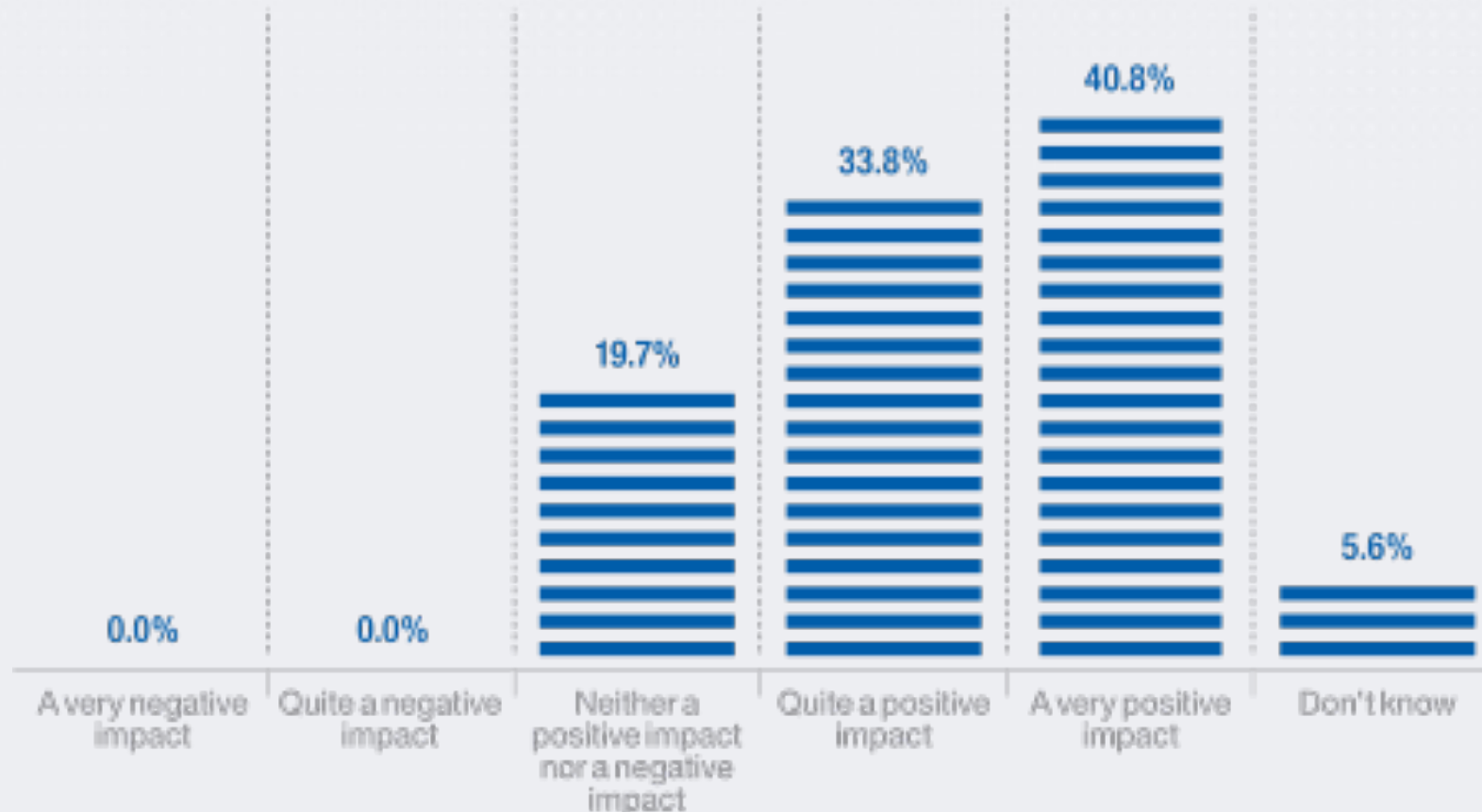
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# Staff Satisfaction

**75%** of businesses that implemented BPM to improve **staff satisfaction** reported a positive impact

*What impact has this BPM initiative had on your business from the following perspective:  
Improving staff satisfaction?*

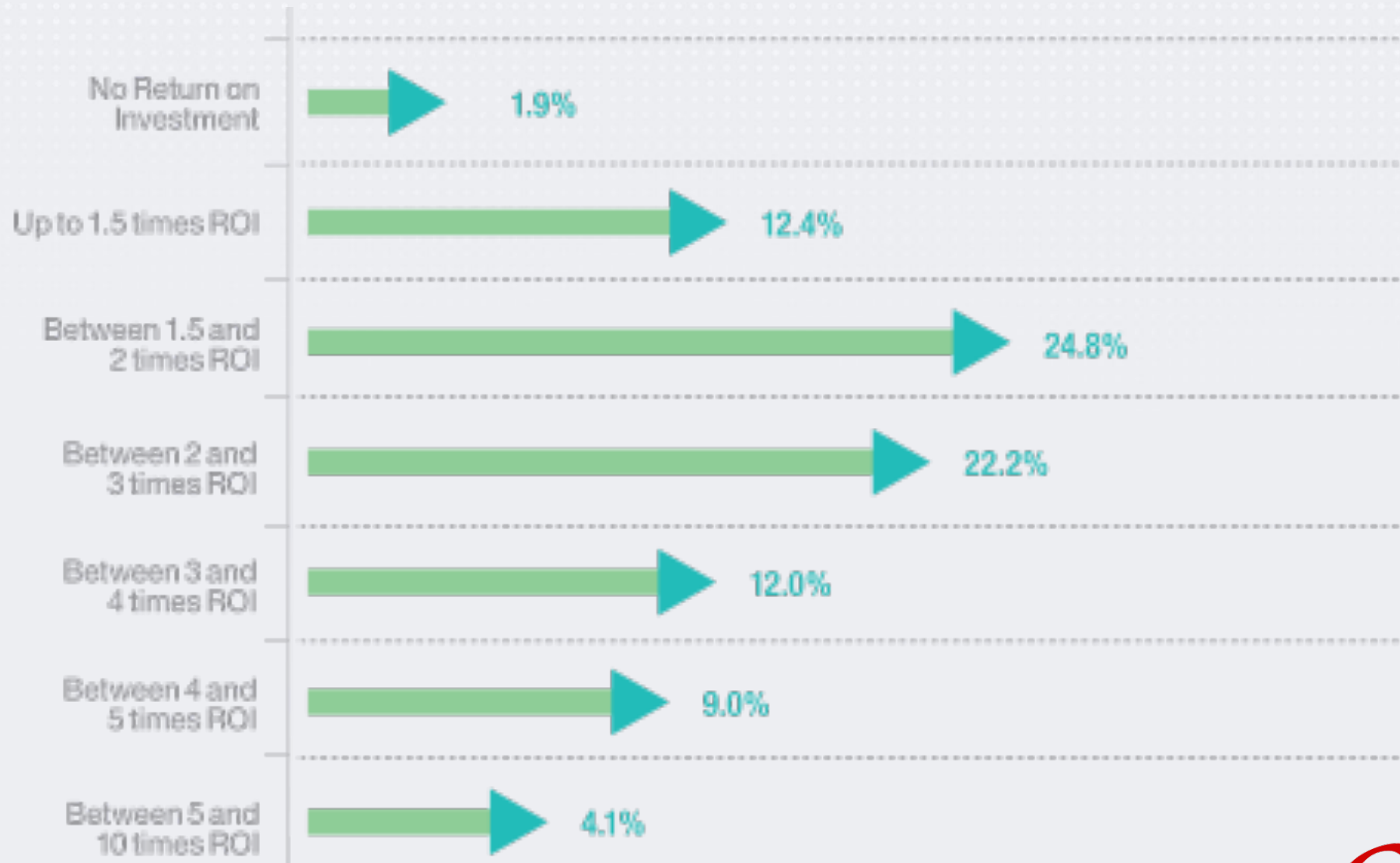


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# BPM: Return on Investment



# BPM can help with

- Economical situation
  - Globalisation / competition
  - Cost reduction
  - Merge/Acquisition
  - Performance
- IT Adoption
  - Decentralised/centralised
  - Web services/BPML
  - Integration
  - Multiple platform

# Teaching method

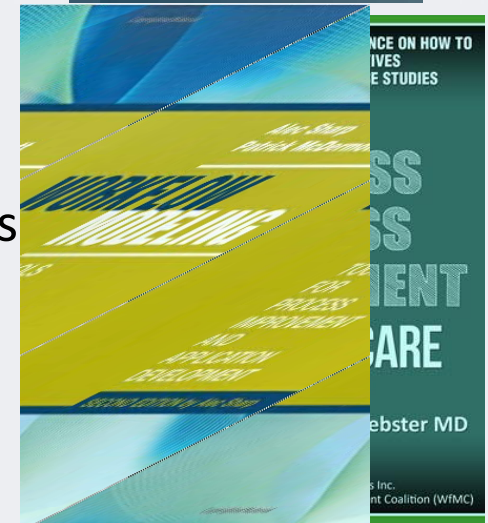
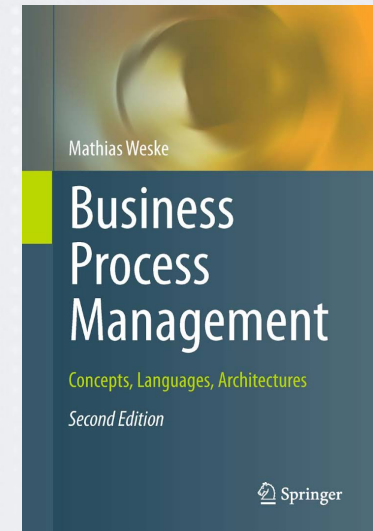
- Lectures ( ~ 2.5hrs per week )
- Independent Student Reading
- Practical work: (+ Group project)
- Tutorials/Case study discussion (in lectures)

## ----- Course Assessment -----

- |                 |     |
|-----------------|-----|
| ● Mid-term exam | 25% |
| ● Project       | 30% |
| ● Assignments   | 15% |
| ● Final exam    | 30% |

# Recommended Course Textbooks

- Weske M. ***Business Process Management: Concepts, Languages, Architectures***. 2<sup>nd</sup> Ed, Springer-Verlag (2012). ISBN: 978-3-642-28615-5
- Sharp A. and McDermott P., ***Workflow Modeling : Tools for process improvement and application Development*** 2nd edition. Artech House, Boston | London (2009). ISBN: 13: 978 1 59693 192 3
- White, S.A., Miers, D.: **BPMN Modeling and Reference Guide: Understanding and Using BPMN**. Future Strategies Inc. (2008)
- Sliver, B, BPMN 2.0 handbook, 2nd Ed, 2012.
- Charles Webster, BPM in Healthcare 2nd Edition





## Definitions

What is Business Process Management?  
its terms and body of knowledge

# Process

- a series of actions, changes, or functions **bringing about** a result (*Oxford English Dictionary*, 2002);
- a series of operations performed in the **making** or **treatment** of a product (*Oxford English Dictionary*, 2002);
- a set of interrelated activities, which **transforms** inputs into outputs (ISO/IEC 15504, 2004).
- Process, is **unit of work** with clear output, may be achieved through a set of activities, performed by one or more stakeholder roles.

# Business Process

- “A collection of **activities** that takes one or more kinds of **input** and creates an **output** that is of value to the customer. A business process has a **goal** and is affected by events occurring in the external world or in other processes.” [Burattin, 2015]
- “A structured, measured set of activities designed to produce a specified **output** for a particular customer or market. A process is thus a specific **ordering** of work activities across time and place, with a beginning, an end, and clearly identified inputs and outputs: a structure for **action**.” [Burattin, 2015]

# Business Process

- “A **business process** consists of a set of **activities** that are performed in **coordination** in an organizational and technical environment. These activities jointly realize a **business goal**” [Weske, 2012]
  - e.g. production line of a car manufacturer, procedures for buying tickets on- line
- A **business goal** defines a target that an organisation aims to achieve by conducting a set of business **processes**.
- Each set of business processes defines **flow of work** to provide a business **output** or **service**. These may involve the participation of human, information, technology and systems to realise a business objective.

# Process terms

- ***Process definition***  
The basic algorithm or behaviour of the process.
- ***Process instance***  
An occurrence of a process for specific input.  
e.g. Each instance of the travel reservation process, for example, is specific to a customer's itinerary.
- ***Activity or task***  
A step in a process, e.g. sending a flight request to the airline.
- ***Automated activity or task***  
A step in a process that is performed directly by the **execution engine**.
- ***Manual activity or task***  
A step in a process that is meant to be performed by a **human** process participant

# Automated activities

- **Automated** activities generally fall into two categories:
  - Interaction with external systems: e.g. sending a booking request to an airline.
  - Arbitrary programmatic logic: e.g. calculating the priority of a task
- The external system interface requires the process runtime engine to have enterprise application integration (EAI) capabilities
- Arbitrary programming logic requires support for embedded code or the ability to call code. Fine-grained programming is best performed in
  - a lower-level language such as Java



# BPM-Body of Knowledge

