

How important are ethics in today's society?



BPM Ethics: Social Impacts of Processes

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BPM Virtual Lecture Series



About me...



About me...

- University of the State of Rio de Janeiro
- PhD in Computer and Systems Engineering
- Postgraduate in Contemporary Philosophy

- Main **research** interests
 - Business Process Management
 - Knowledge-intensive Processes
 - Computer-Supported Cooperative Work
 - Philosophy of Technology



The "Black Friday" Scenario



- Collaboration & knowledge Exchange among people
- Million of insights, perceptions, desires and intentions shared through social networks



The purchase decision is a Knowledge-intensive Activity

- which products will be sold?
- which shop will offer the better prices?
- is it worthy? (traffic jam, crowds, etc.)

Me: Boy oh boy, i'm thinking about buying a ...



<https://knowyourmeme.com/photos/1948129-black-friday>

Let's talk about Ethics in BPM!

Many questions must be formulated...



Agenda

- Short motivation: Why Ethics in BPM?
- Thought experiments and stories
- What is Ethics anyway?
- Ethics in BPM
- Ethical dilemmas and social impact of business processes
- A Process to examine (and make decisions concerning) Ethics

A Process definition

"A process is a coordinated group of changes in the complexion of reality, an organized family of occurrences that are systematically linked to one another either causally or functionally"

"And processes almost inevitably involve not just perdurance and continuity but also change over time"

Rescher, N. Process Metaphysics: an introduction to **process philosophy**. State University of New York, 1996.

Process Philosophy

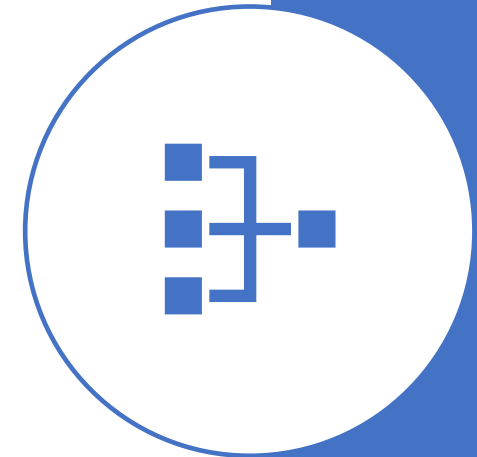
- General theory of reality
- **Natural existence** consists in and is best understood in terms of processes rather than things
- Stresses the **primacy of activity** (and associated factors such as time, change, innovation, etc.)

Process Science

"All happens through processes, and all happens in processes: Organizations work through processes, our lives unfold in processes."

"Processes can make an impact on our society and environment"

<http://process-science.net/>



Process Science

- Progressing BPM as **Formal** Science
- Progressing BPM as **Behavioral** Science
- Progressing BPM as **Design** Science

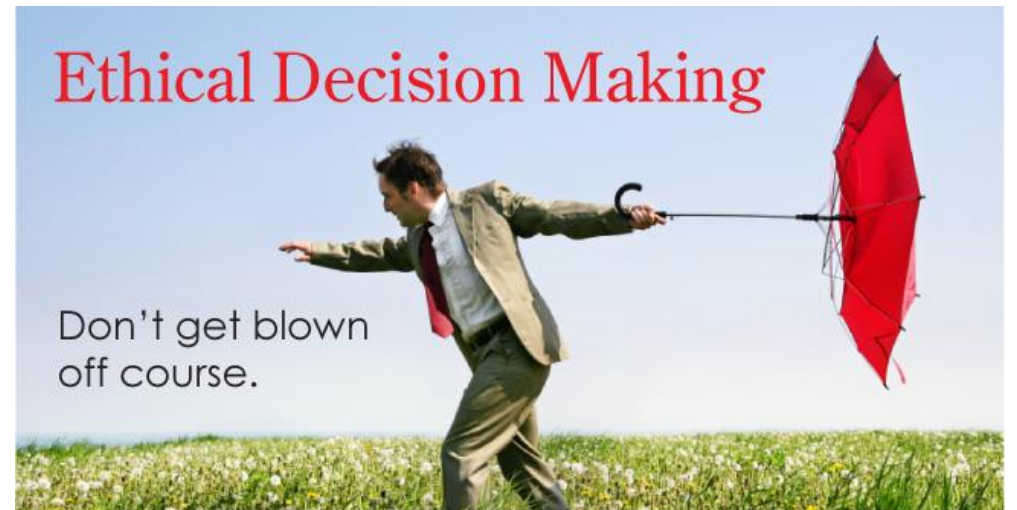
Where do the ethical issues fit?

Ethics is everywhere, but it must be explicitly considered

What are the theoretical premises to be adopted in BPM?

Is there any?

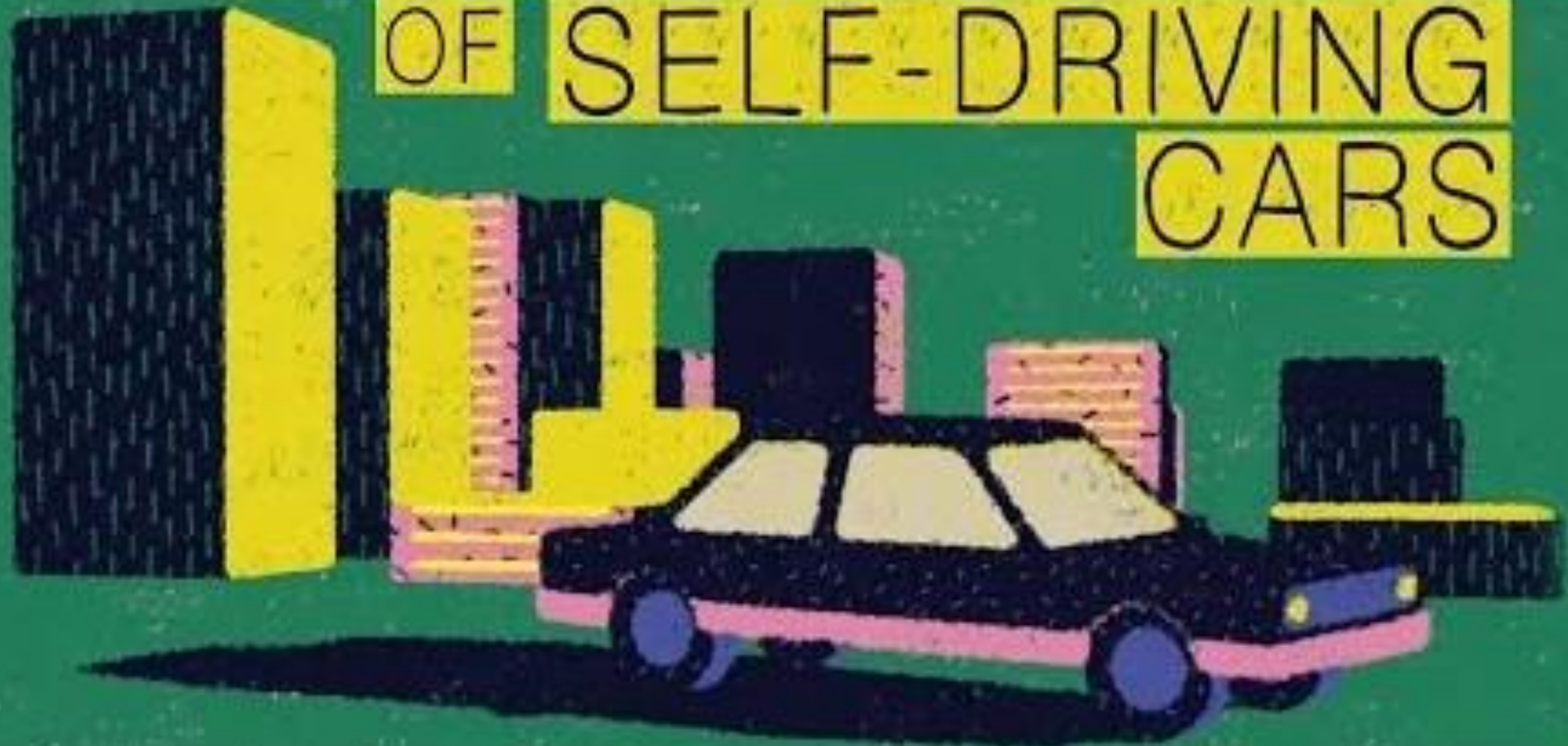
Let's start asking questions!



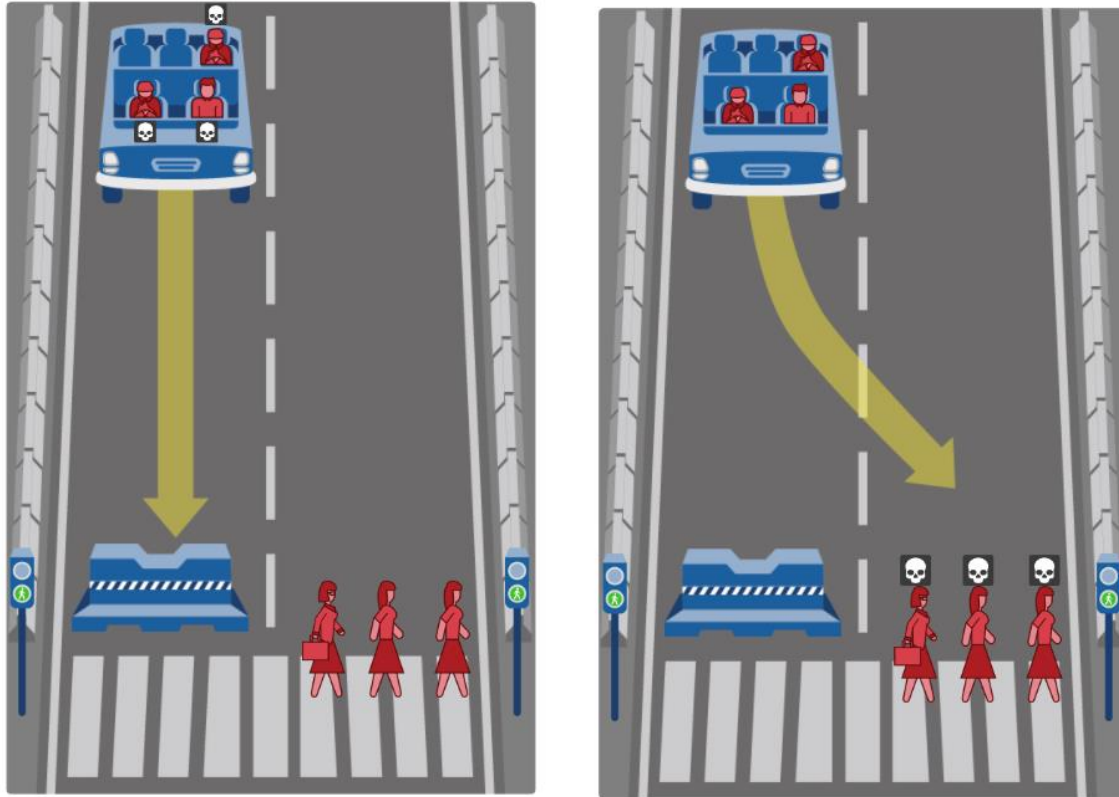
<https://culcivanfss.wordpress.com/2017/01/22/first-blog-post/>

THE ETHICAL DILEMMA OF SELF-DRIVING CARS

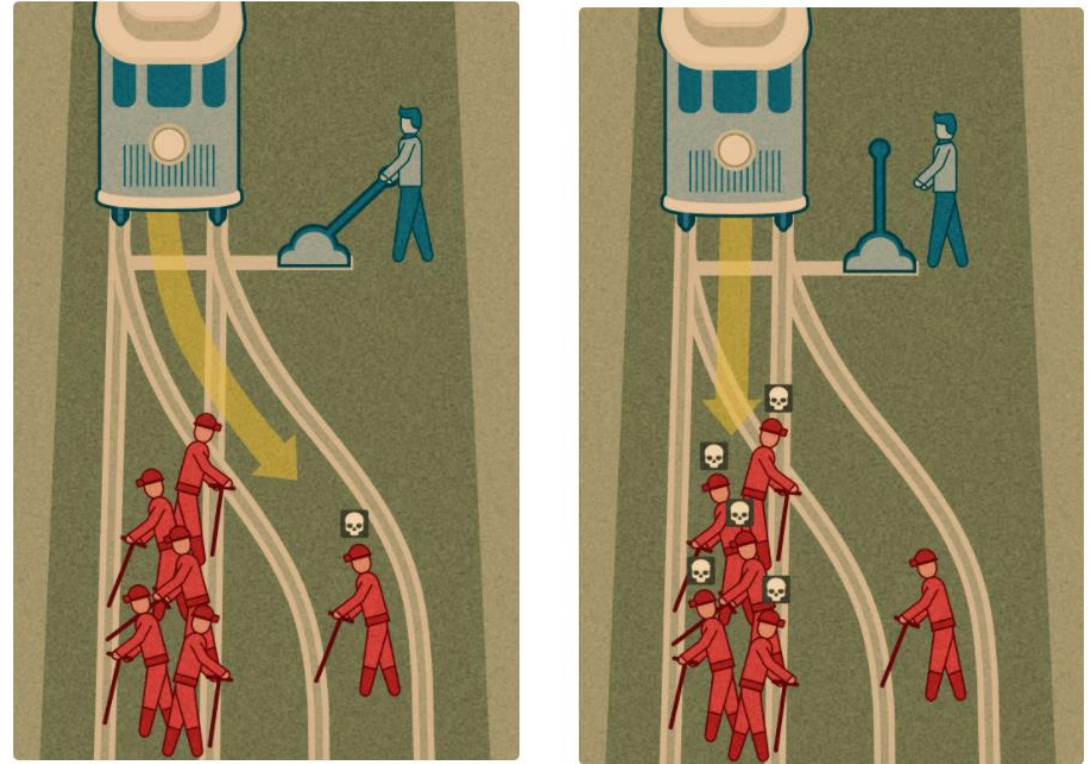
TEDEd



What should the self-driving car do?



What should the man in blue do?

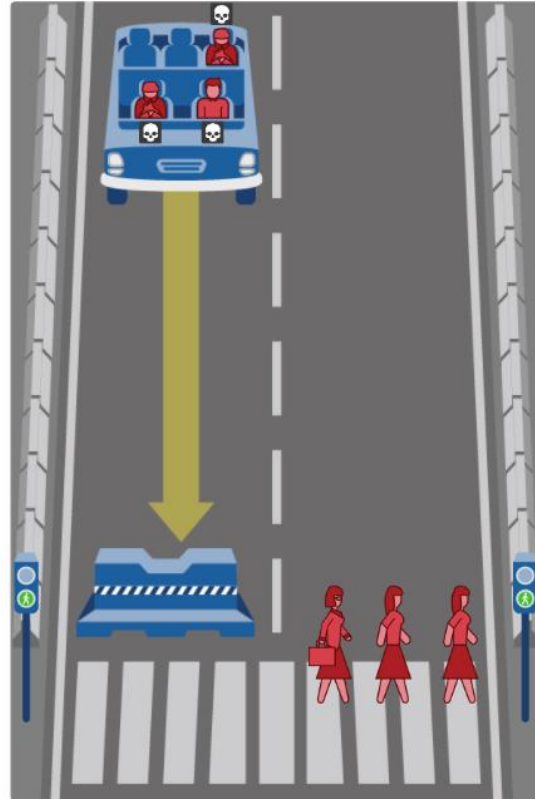


MIT

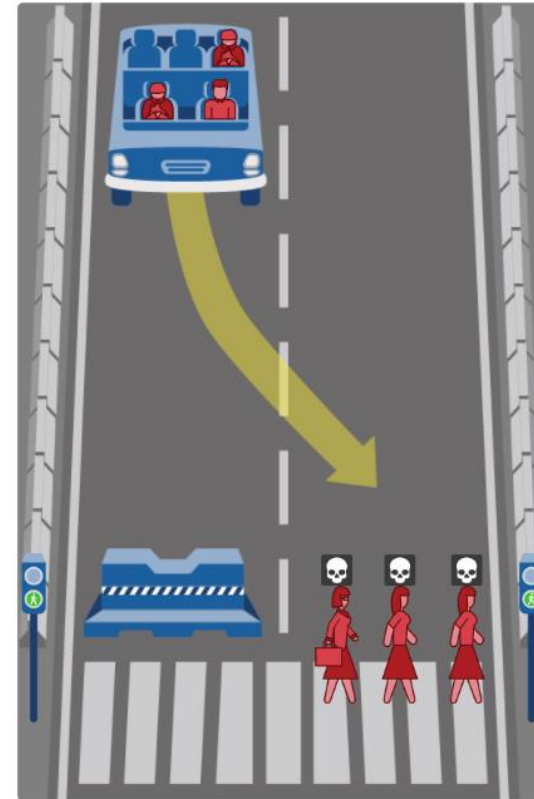
<https://www.moralmachine.net/>

Now..make your choice

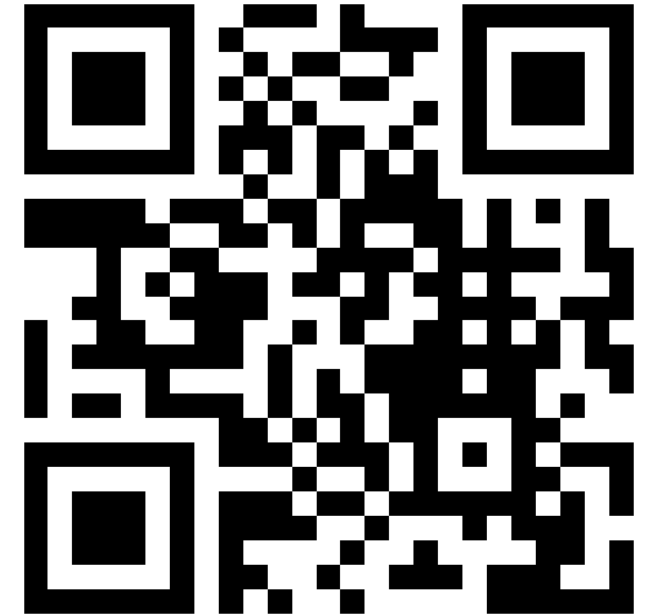
What should the self-driving car do?



A



B



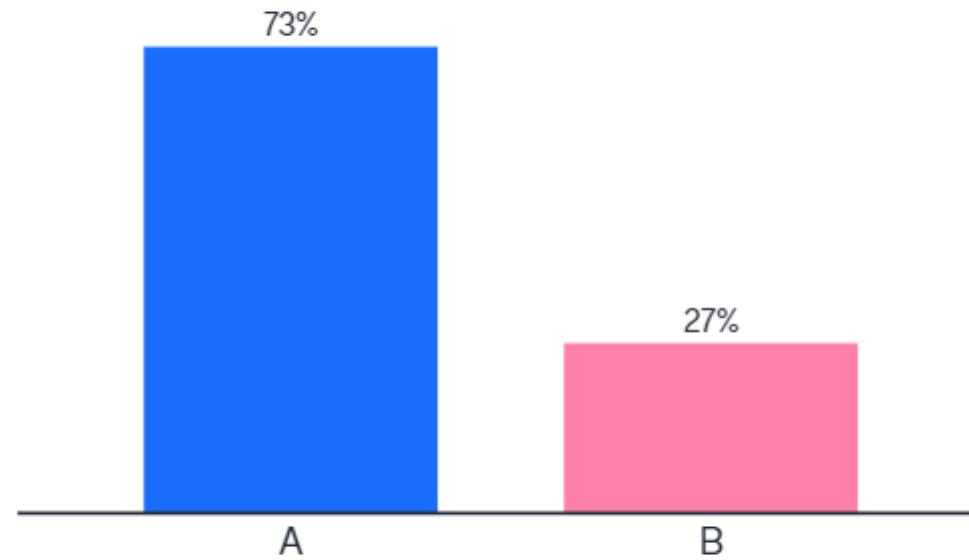
<https://www.menti.com/21farxsrdb>

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Go to www.menti.com and use the code 64 52 49 5

Mentimeter

Passengers or Pedestrians?



Press S to show image

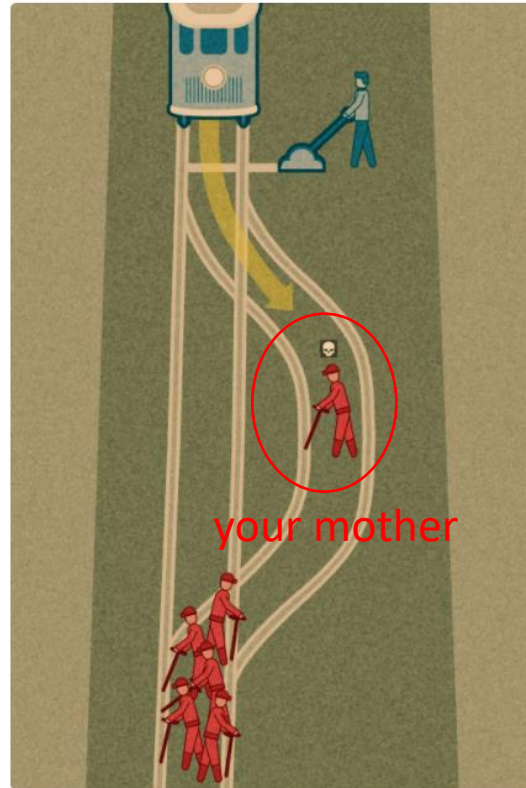


Now...make your choice

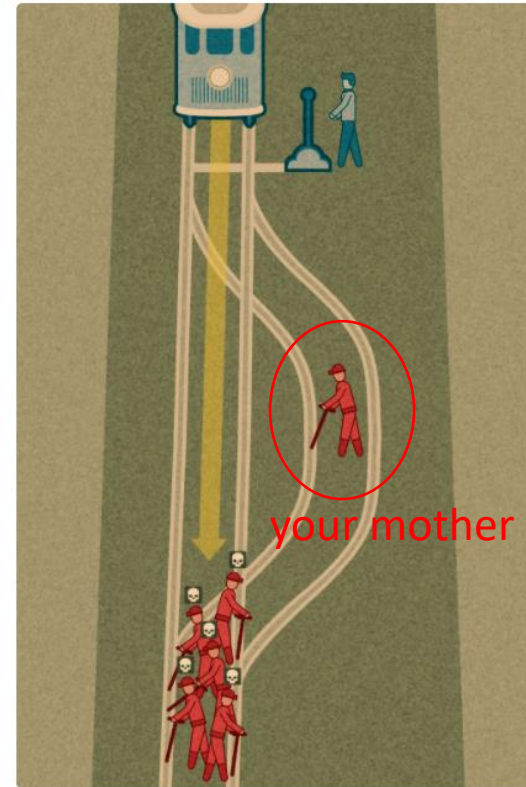
What should

YOU

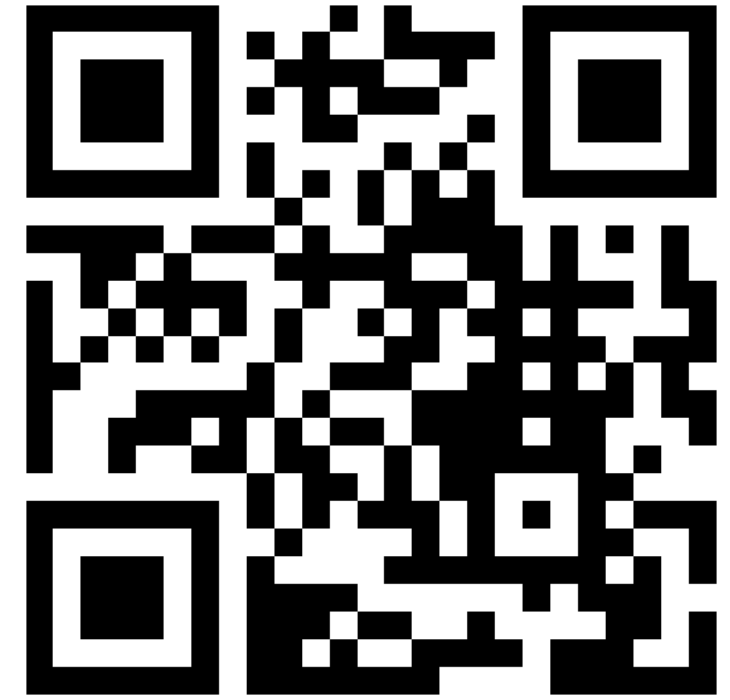
do?



A



B



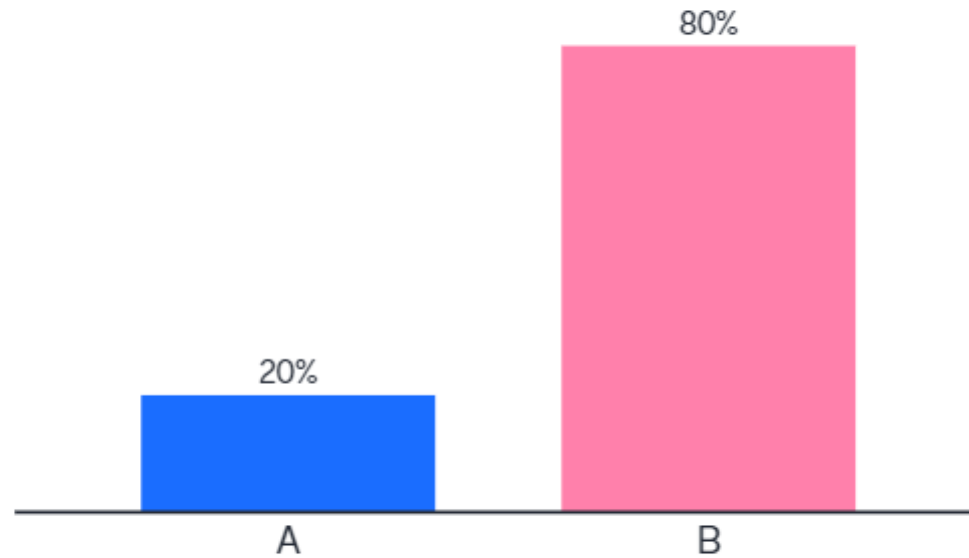
<https://www.menti.com/cnts1lcozv>

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Go to www.menti.com and use the code 97 33 93 5

Mentimeter

1 person (your mother) or 5 people



Press S to show image



First story

There is this concert that you really want to go ...

Think of it. It's your favorite band playing in your city.

They announced the day and the opening of the ticket sales.

The day comes and you are sure to be one of the first ones to buy, however...

Sold out!

Why? How did it happen? You accessed the site at the first second.

But scalpers have bought all the tickets...

But then again, never mind, they are now selling them ...

for the double of the price.



Back to search results | Listed in category: Video Games & Consoles -> Video Game Consoles

Sony PlayStation 5 PS5 Disc Version - UK Model
- In Hand - NEXT DAY SHIPPING

356 viewed per hour

Condition: **New**


Quantity: 8 available
[10 sold / See Feedback](#)

Price: **£999.00**
From £48 per month for 24 months

[Buy it now](#)
[Add to basket](#)
[Watch this item](#)

100% buyer satisfaction | Click & Collect | Limited quantity remaining

Collect 300 Nectar points
[Redeem your points](#) | [Conditions](#)

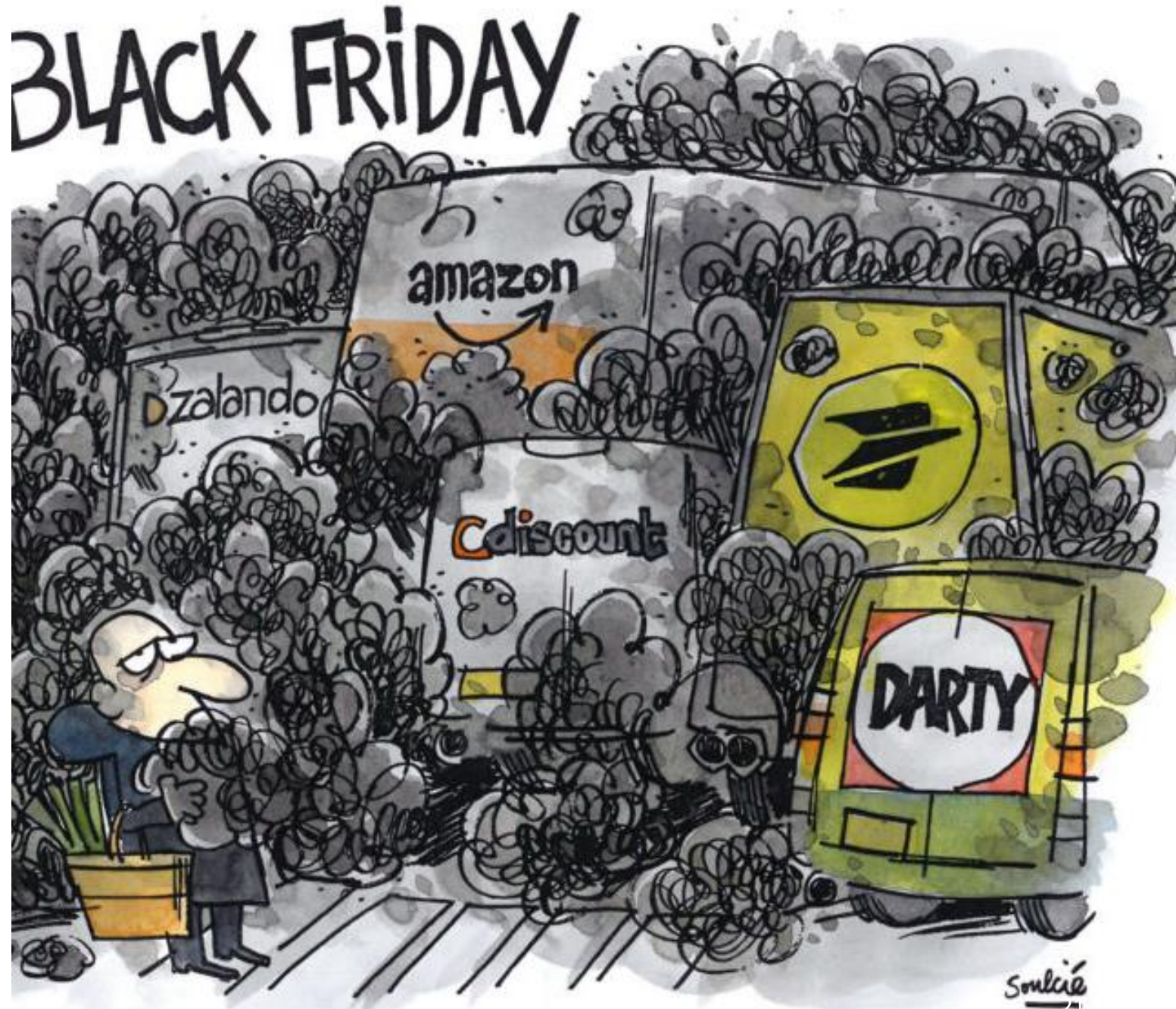


Black Friday: how robots outplay you in bargain contests

Ethical dilemma

- People (the real customers) are excluded from the process: they are not needed anymore
- Robots will choose things for us: we will not be given the chance of making mistakes
- Predatory practice; if everyone uses a robot, the network will probably fall
- How about the sellers' side?
- Process = algorithmic operation

Other ethical dilemmas?



Second story

How delivery apps are bankrupting small restaurants

iFood is part of the select group of "unicorns" in Brazil

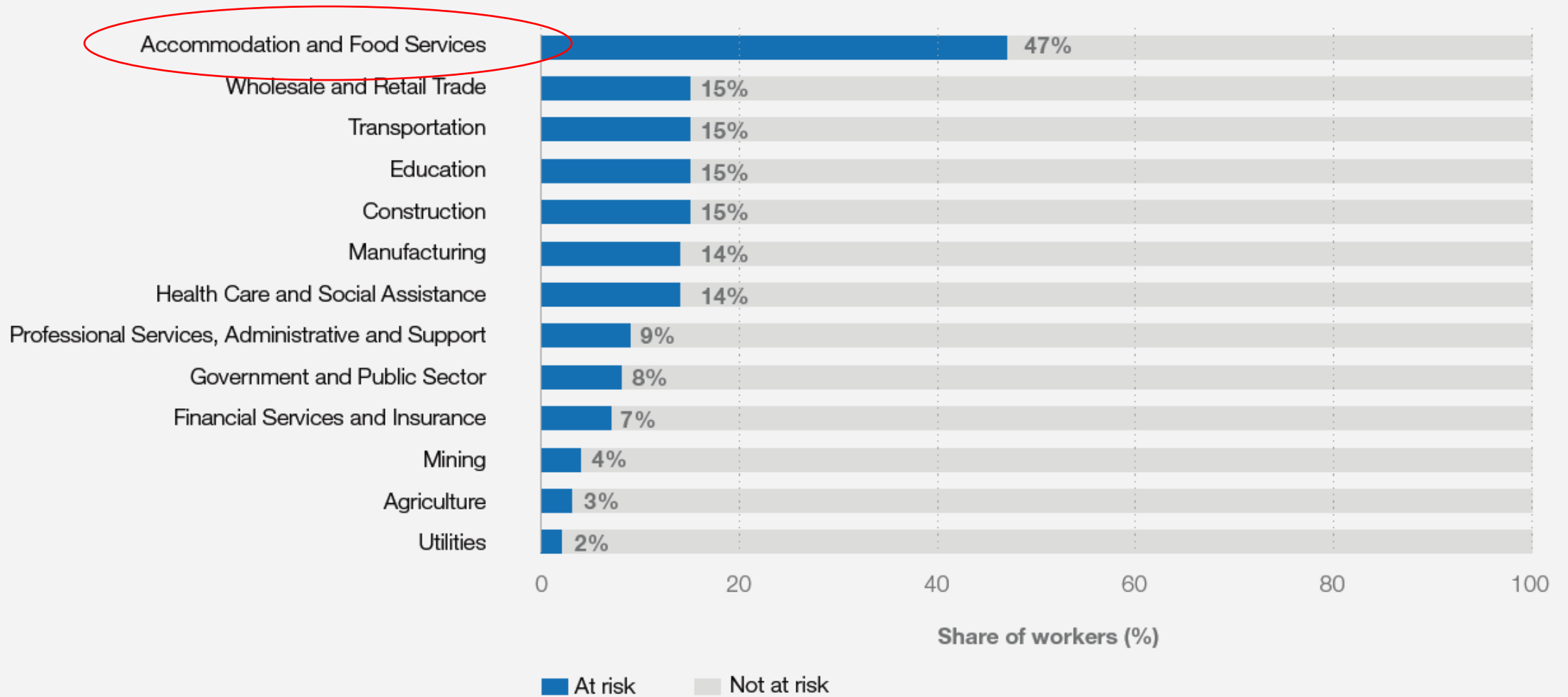
The business model of this service is based on the use of **idle productive capacity** in restaurants and order scheduling combined with **efficient delivery logistics**, which results in **more affordable meals**

<https://empresas.ifood.com.br/>



FIGURE 9

Estimated share of workers at risk of unemployment, by sub-industry



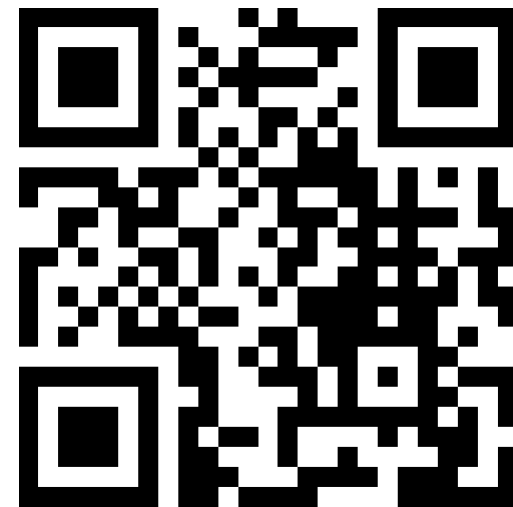
Ethical dilemma

- Introduction of other ways of inequality
- Physical restaurant/store is cannibalized, since the customer will choose the application
- Creation of "dark kitchens"
- Hampering of the restaurants' operation on the platform
- Ranking of the restaurants within the platform is determined by "artificial intelligence"
- Who is responsible for what is delivered to the consumer?
- Process = algorithm operation

**Write one word that comes to
your mind when you think
about ethics**

<https://www.menti.com/kmtdqfnjbn>

code 74 53 66



Go to www.menti.com and use the code 74 53 66

 Mentimeter

Ethics

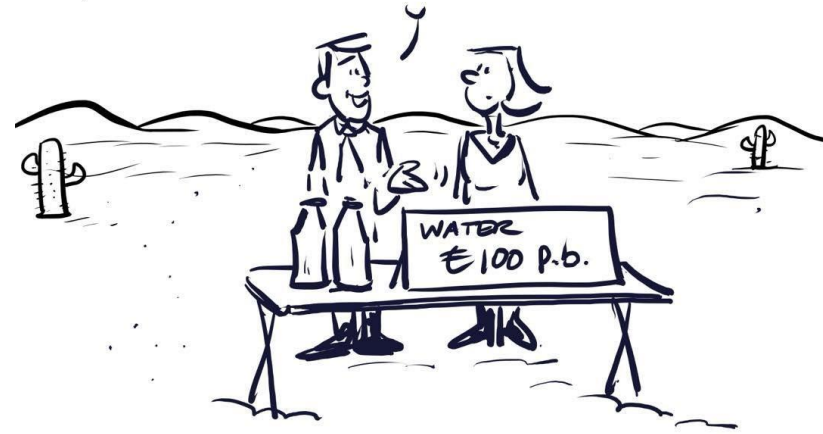


Ethics

- Origin
 - from the Greek *ethos* - way of being, character
 - from the Latin *mos (mores)* - traditions, from where the word 'moral' was derived
- In Philosophy
 - what is good for the individual and for the society; its study contributes to establish the nature of duties in the individual-society relationship



IT IS UNETHICAL, BUT
FORTUNATELY FROM A
BUSINESS ETHICS PERSPECTIVE
IT IS ETHICAL!



© KURF.

<https://br.pinterest.com/pin/598908450429692262/>

Muel Kaptein

**What's the difference between ethics
and moral?**

Moral X Ethics

- *Moral*

Socially shared customs, habits and affections

Regional and temporal variation

- *Ethics*

Rationale of conduct, Criteria and Principles

Perspective of universalization

Ethics allows for the critical reformulation of laws

- *Internal sanctions*

Moral

(customs, habits)

Ethics

(criteria, principles)

- *External Sanctions*

Law

(laws, policies, regulations)



Ethics

- Applied ethics: related to a person's daily conduct
- Professional ethics: related to the conduct of the person engaged in the practice of a particular job
- **Ethics in BPM**
 - principles of ethics permeate everyday decisions
 - social impact of business activities should be consistently considered

Ethics in BPM



Corporations are a part of society and make a contribution to social life



Business Ethics and Corporate Social Responsibility → business processes and business performance



Intangible resources are core assets a business can use for competitive advantage



Trust-building within a firm and between a firm and its stakeholders → accountability and commitment



Ethically significant results should be determined by the mechanisms governing the business environment and the social environment

Issues in an ethical approach to BPM

- Open communication and problem-solving
- Knowledge sharing and creativity among employees (the organizational capital)
- Interactions and relationships with suppliers, customers and other stakeholders (the relational capital)
- Retention of good talent (the human capital)

WE'RE GOING TO PUT EVERYTHING ON PROFIT MAXIMIZATION SO THAT WE WILL HAVE ENOUGH MONEY TO INVEST ON PEOPLE AND THE PLANET!



<https://fi.pinterest.com/pin/598908450429692171/>

Muel Kaptein



Copyright ©2014 R.J. Romero.

"Success and happiness eluded me until I learned the importance of using empathy and human kindness for unethical business practices."

Can business process analysts/scientists justify the results of the projects they are involved with?

Ethics is about people!

- People's decisions is the center of this discussion
- Business process analysts/scientists are responsible for the issues related to the nature of the designed processes and techniques proposed

Precautionary principle



*" When an activity raises threats of harm to human health or the environment, **precautionary measures** should be taken even if some cause-and-effect relationships are not fully established scientifically. In this context **the proponent of an activity**, rather than the public, **should bear the burden of proof**. The process of applying the precautionary principle must be open, informed and democratic and must include potentially affected parties. It must also involve an **examination of the full range of alternatives**, including no action "*

1. Taking anticipatory action to prevent harm in the face of scientific uncertainty.
2. Exploring alternatives, including the alternative of "no action."
3. Considering the full cost of environmental and health impacts over time.
4. Increasing public participation in decision making.
5. Shifting the responsibility for providing evidence to the proponents of an activity.



What are the ethical dilemmas in BPM?

Ethics in BPM

"Ethics: new technologies have effects that can be judged as **good and bad** from an ethical perspective. On the downside, artificial intelligence-based solutions might simply adopt the biases and prejudices that the training data includes. ... On the bright side, technologies have the potential to **speed up processes that people find stressful due to their long duration...** Beyond that, technology has also the potential to make **business processes fairer and less susceptible to corruption**"

Mendling, J., Decker, G., Hull, R., Reijers, H. A., & Weber, I. (2018). How do Machine Learning, Robotic Process Automation, and Blockchains Affect the Human Factor in Business Process Management? *Communications of the Association for Information Systems*, 43, pp-pp.

Some topics that should be examined

- Focus on improvement (efficiency)
- Digital transformation
- Data-driven BPM
- Future of work
- Privacy and Trust

Focus on improvement

Current paradigm:
Efficiency (cost and time)

X

Social impact

Customer-centered
process design

X

Full range of
stakeholders

THE GLOBAL GOALS

For Sustainable Development

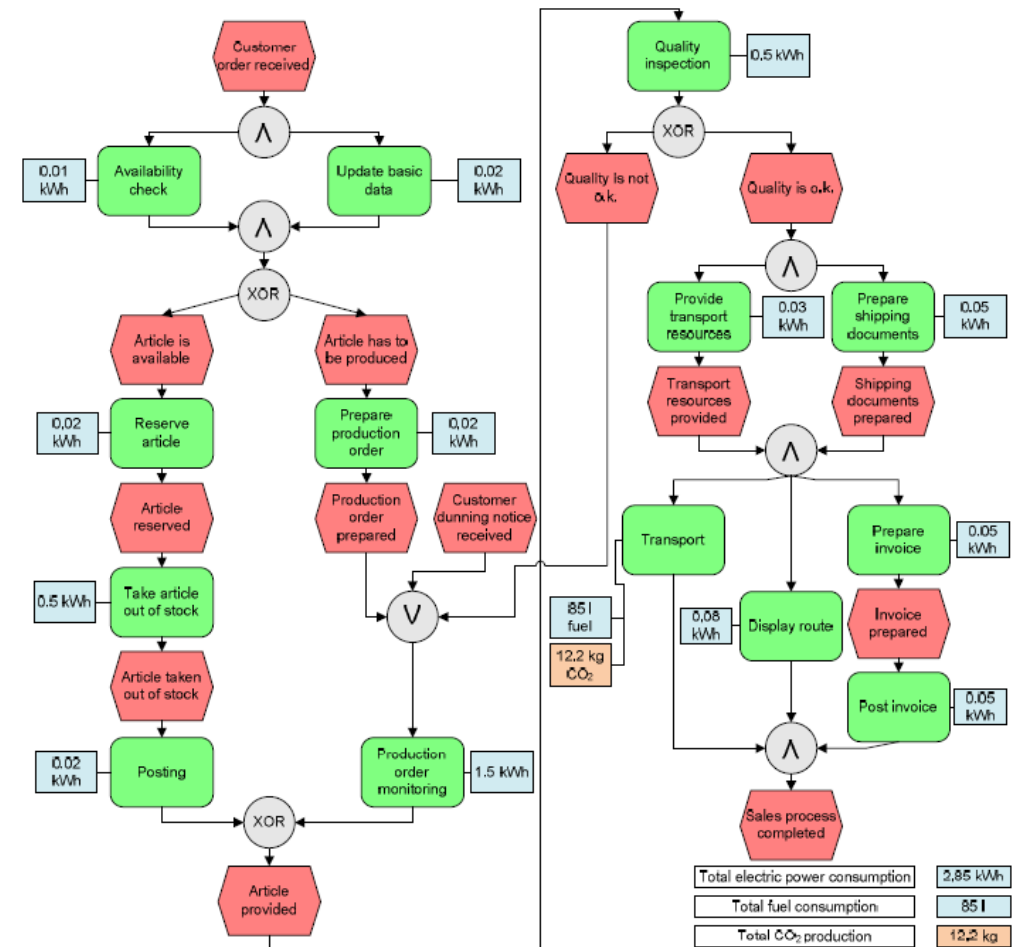
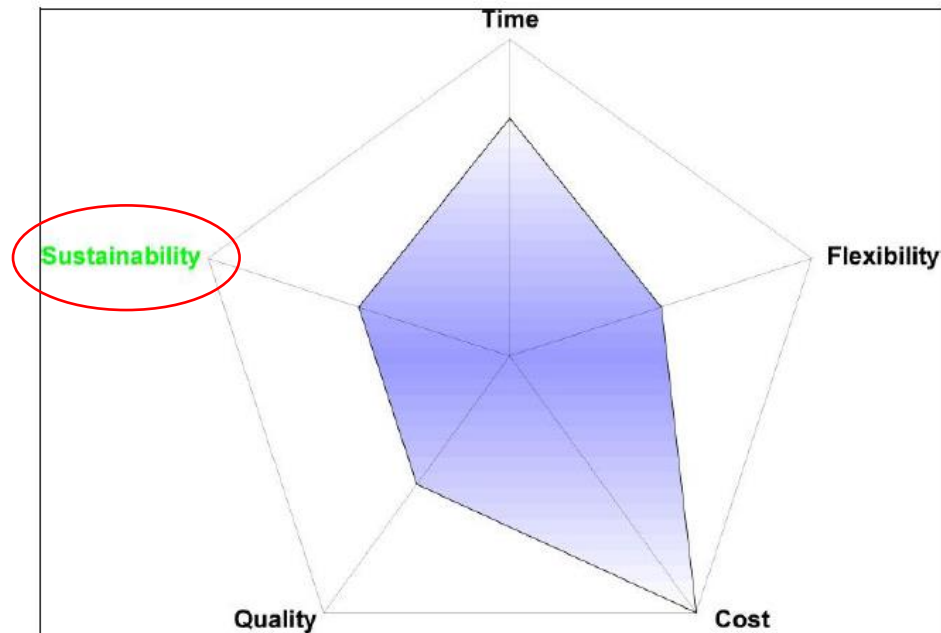


<https://www.un.org/sustainabledevelopment/sustainable-development-goals/>

Example

Sustainability of processes can be planned!

- Consumption of resources
- Production of waste materials

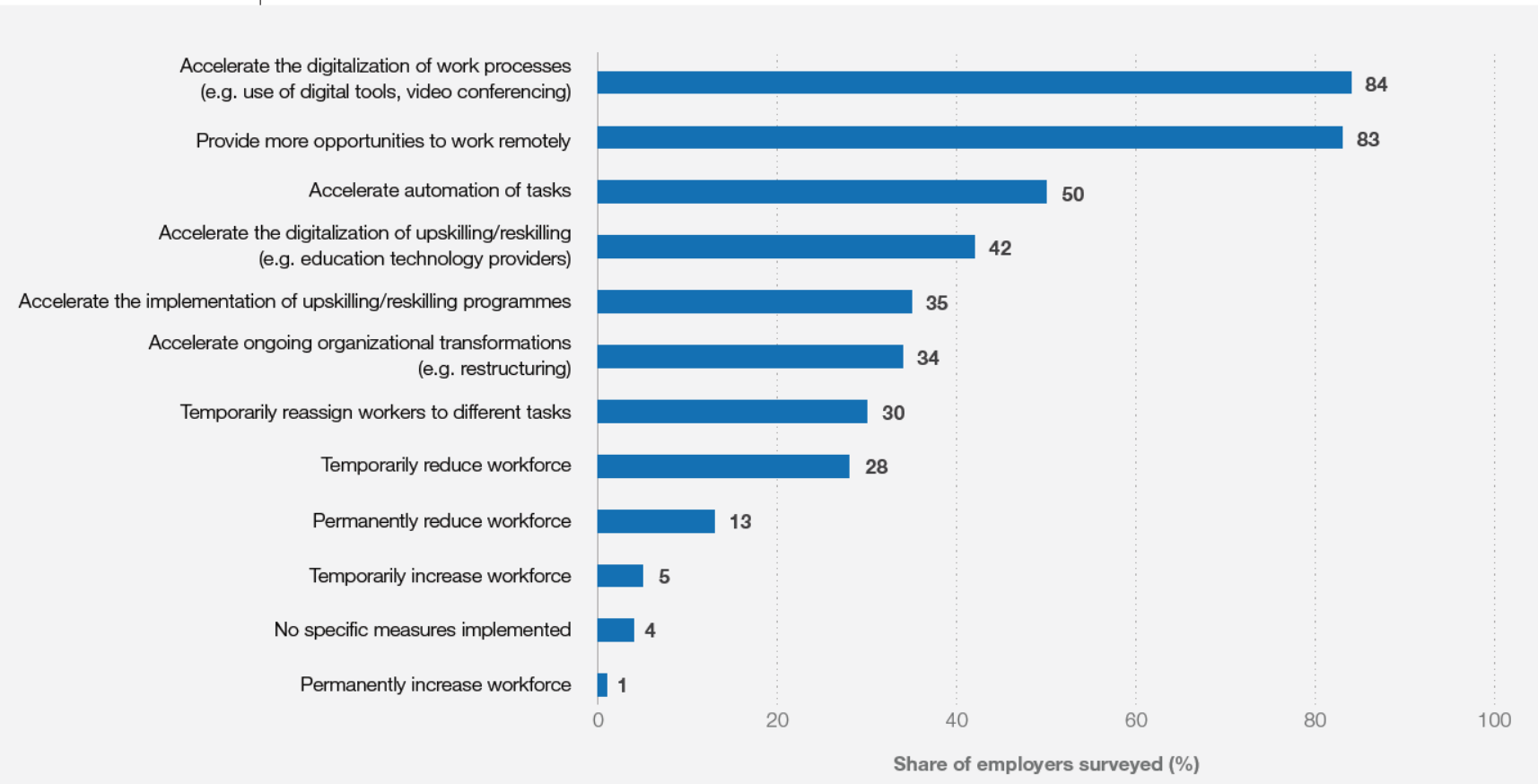


Houy C., Reiter M., Fettke P., Loos P. (2011) Towards Green BPM – Sustainability and Resource Efficiency through Business Process Management. In: zur Muehlen M., Su J. (eds) Business Process Management Workshops. BPM 2010.

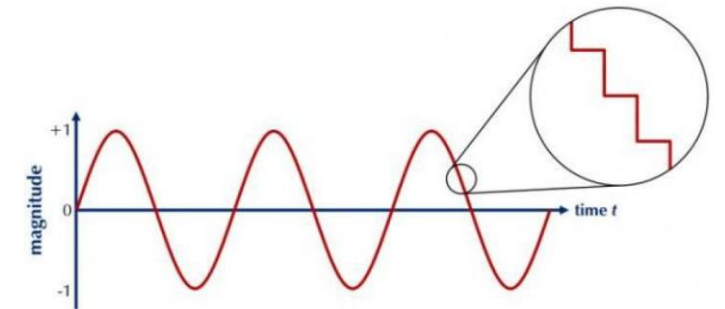
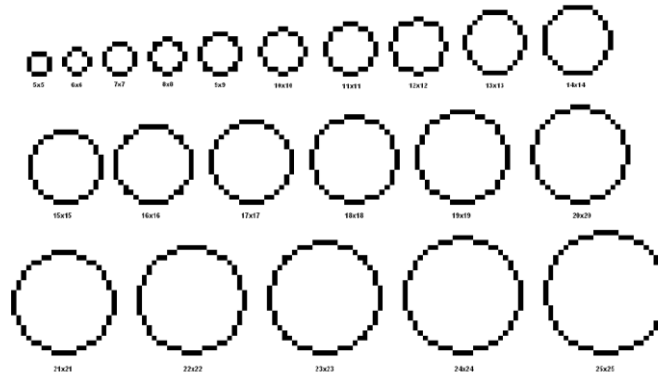
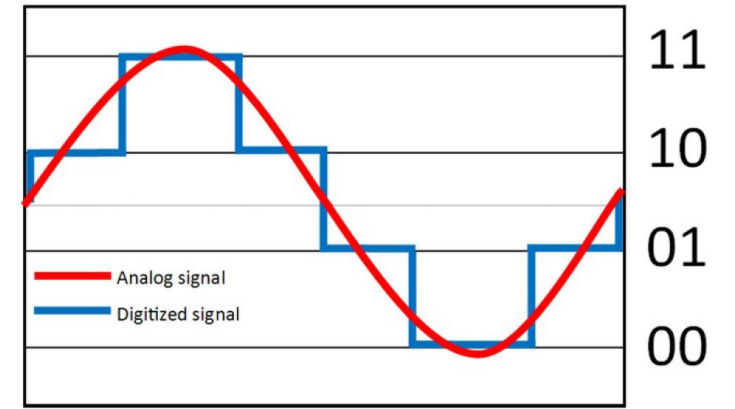
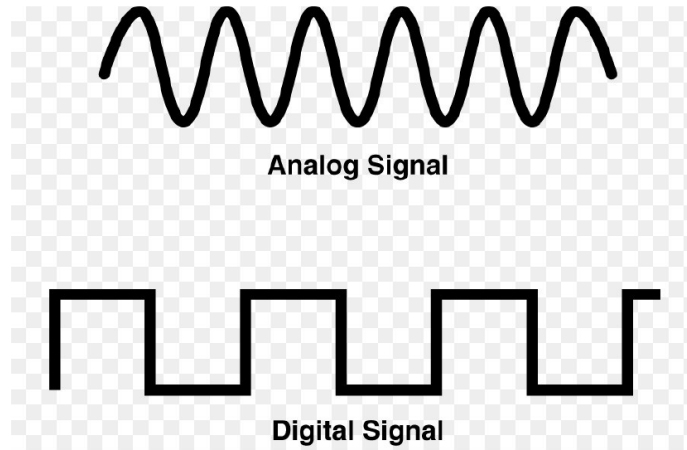
Opitz, Nicky; Krüp, Henning; and Kolbe, Lutz Maria, "Environmentally Sustainable Business Process Management – Developing a Green BPM Readiness Model" (2014). PACIS 2014 Proceedings. 12 40

Digital transformation

FIGURE 5 | Planned business adaptation in response to COVID-19



Digital transformation: a simplified view of reality



Like



Love



Haha



Yay



Wow



Sad



Angry

Data-driven BPM

- Perspective of the past
- Search for patterns
- Predictive X Prescriptive
- Artificial Intelligence enables algorithm-based solutions to substitute processes previously managed by humans



Writing



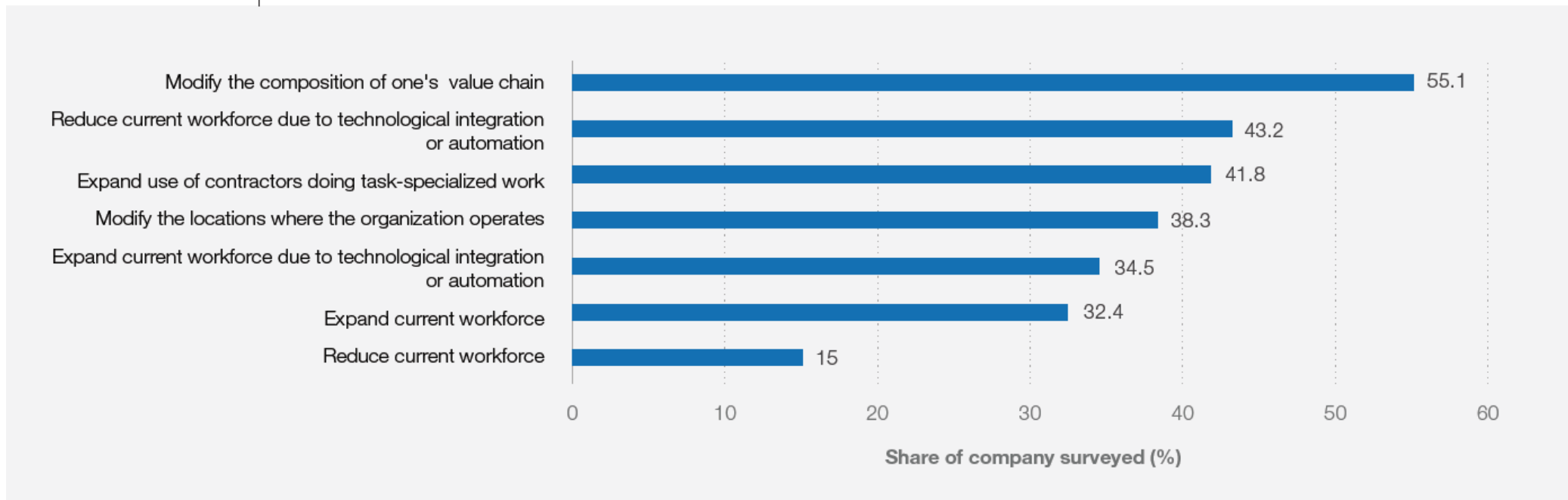
- Ensure that by the same
 - Social
 - Spatial
 - Temporal
 - Structural

*The future is always created on uneven foundations. In order to understand how we can create futures that **do not exclude, or isolate**, we have to understand how the future is written in the present. More specifically, **how minority** elements are, in this moment, **unequally distributed**; how these **inequalities are likely to be reproduced** or altered in the future; and how these inequalities may actually determine the future or futures at which we arrive. Through exploring how existing differences create unequal futures, we can begin to understand how to **look forward** in a way that is **beneficial** to those who are often excluded from **mainstream narratives of change**.*

Future of work

FIGURE 20

Companies' expected changes to the workforce by 2025 (by share of companies surveyed)



Privacy and Trust

A photograph of a prison cell block. In the center is a multi-story observation tower with a glass-enclosed upper section and a small cupola on top. The tower is surrounded by several levels of cell blocks with white railings. The floor is a light-colored, possibly concrete or dirt, surface. The overall scene is dimly lit, suggesting an indoor or shaded environment.

Watch, punish, prevent or transform?

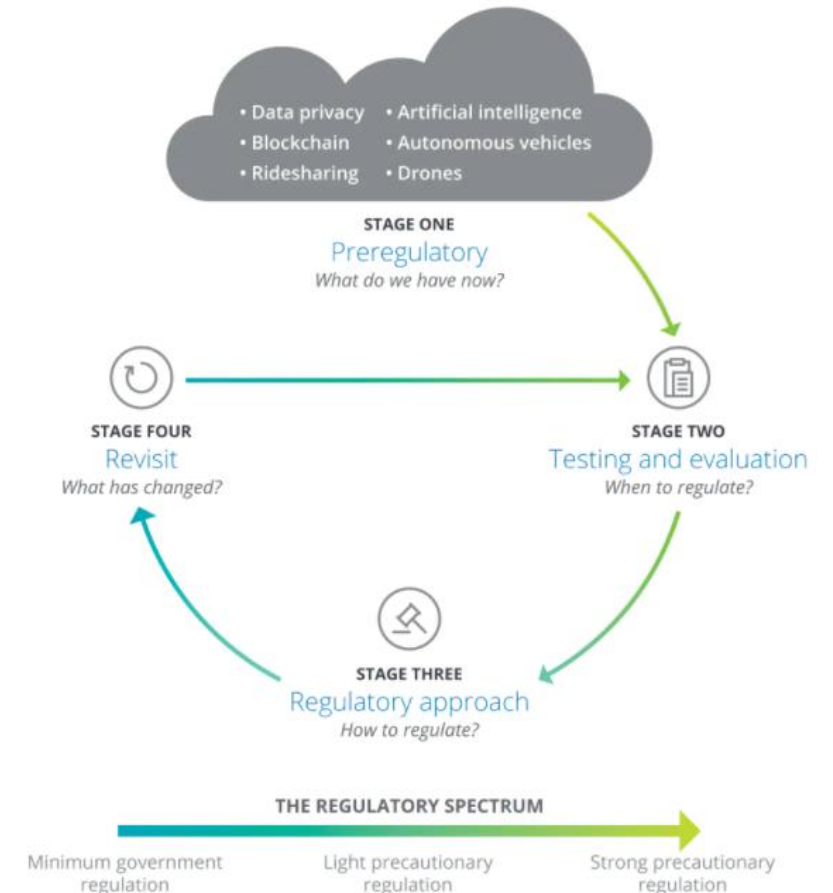
Tracking Systems: Security/Health/Efficiency or Threat to Privacy?



- Dilemma: opportunity to use new technology, need for greater security
- What are the arguments in favor of using GPS technology to track people's movement? What are the arguments against this practice?
- What should be the process scientist position?

Three laws for the digital age

- First Law: PEOPLE'S DATA must be protected
- Second Law: PEOPLE must be protected from ALGORITHMS
- Third Law: It must be ensured that the First and Second Laws are the basis for the FUTURE and not the paths for the PAST



Source: Deloitte Center for Government Insights analysis.

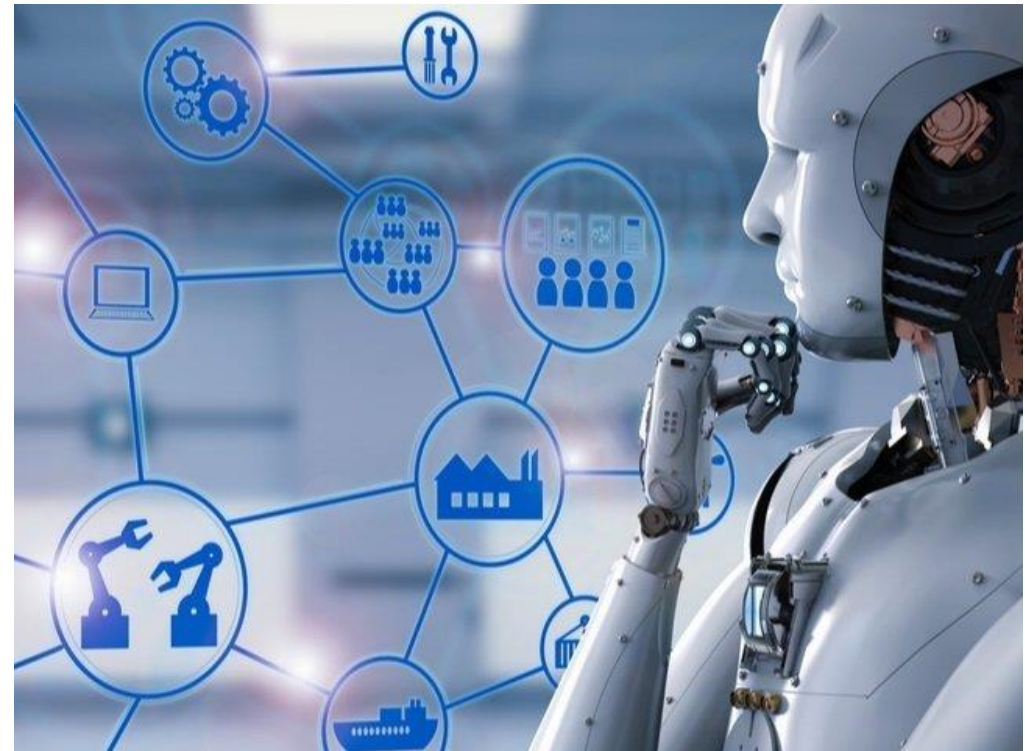
Deloitte Insights | deloitte.com/insights

<https://silvio.meira.com/silvio/as-tres-leis-da-era-digital/>

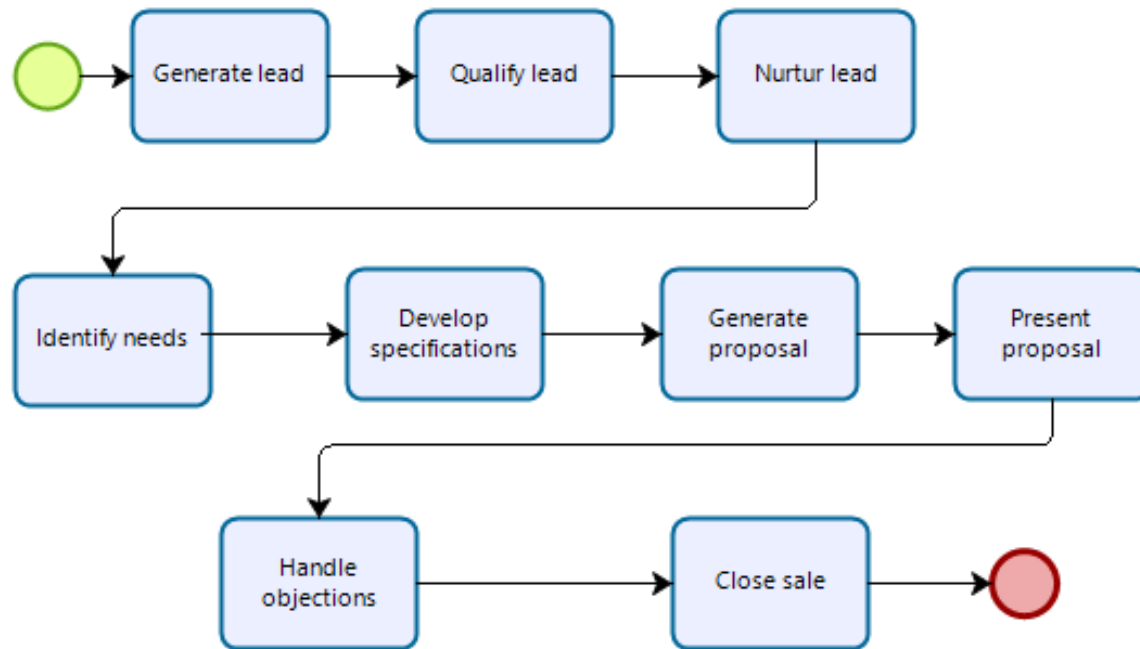
Principles for regulating emerging technologies: <https://www2.deloitte.com/us/en/insights/industry/public-sector/future-of-regulation/regulating-emerging-technology.html>

Example

- Case study of the design and implementation of an AI Sales Assistant (AIA) in a number of companies in China
- Views of three stakeholders
 - Designers: intentions for the functions of the AIA
 - Salespeople: hesitancy to adopt the AIA
 - Managers: interests in monitoring and security



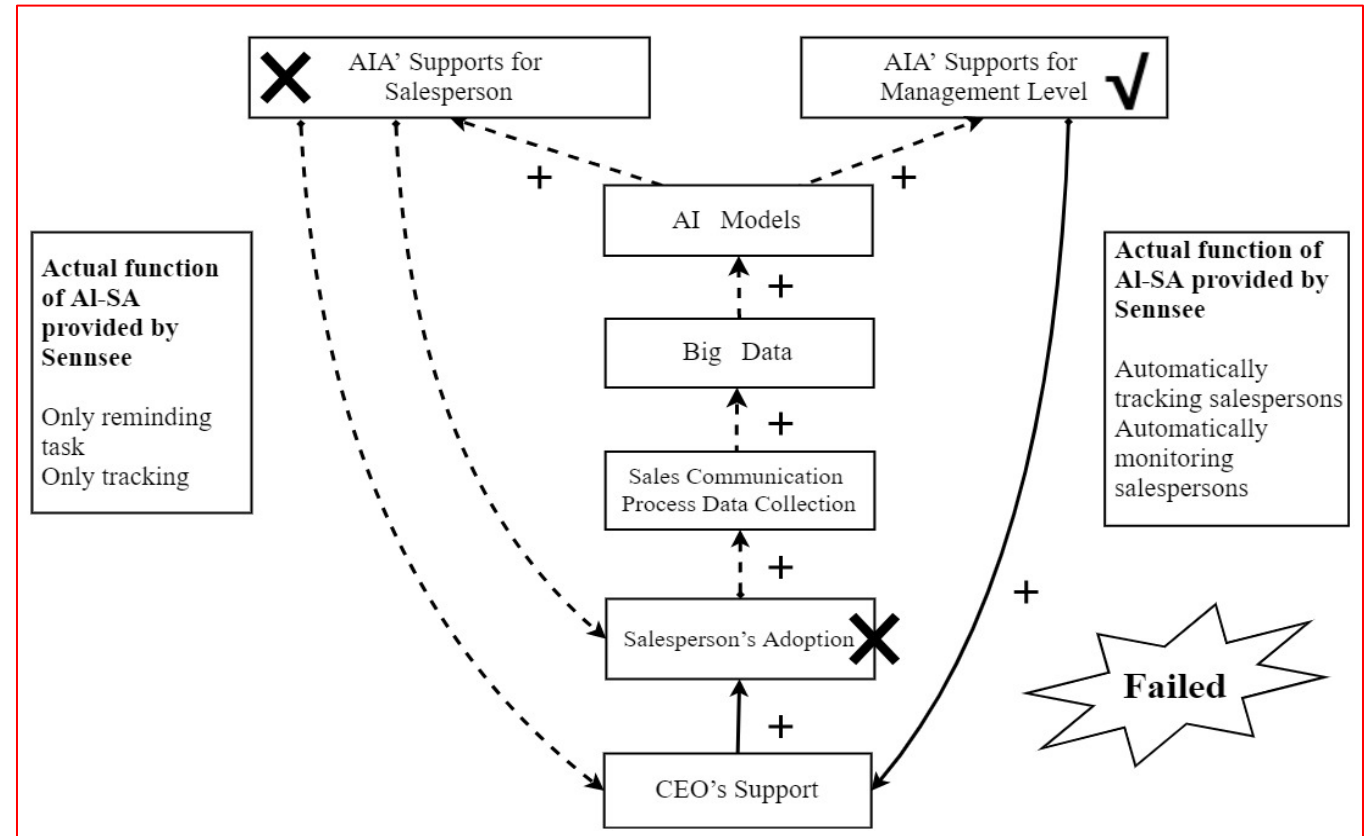
CRM and the sales' process



- CRM manages the high turnover in the sales force
- Automation of selling activities improves and standardizes them
- **Salespeople** serve as the link between the company and its market

Results

- Salespeople felt monitored by managers: "heteronomy"
- Deployment of AI requires significant new and reconfigured work practices
- Employees engage in workarounds
 - learning how to **game the system**
 - **cooperating less with AI** generated work assignments
 - **trusting themselves** more than the system



RPA: Ethical framework

"Employees are positive about intelligent robots"

But many actions are necessary, including, guarantee that:

1. Intelligent robots are able to perform the tasks to be automated
2. Employees can control a robot's output for accountability
3. Internal expertise of automated processes remains
4. Robots are not used for talent management

Social responsibility: process redesign should also comprise social concerns

"How can automation be balanced with the social objectives of providing meaningful jobs to society and job security to employees?"

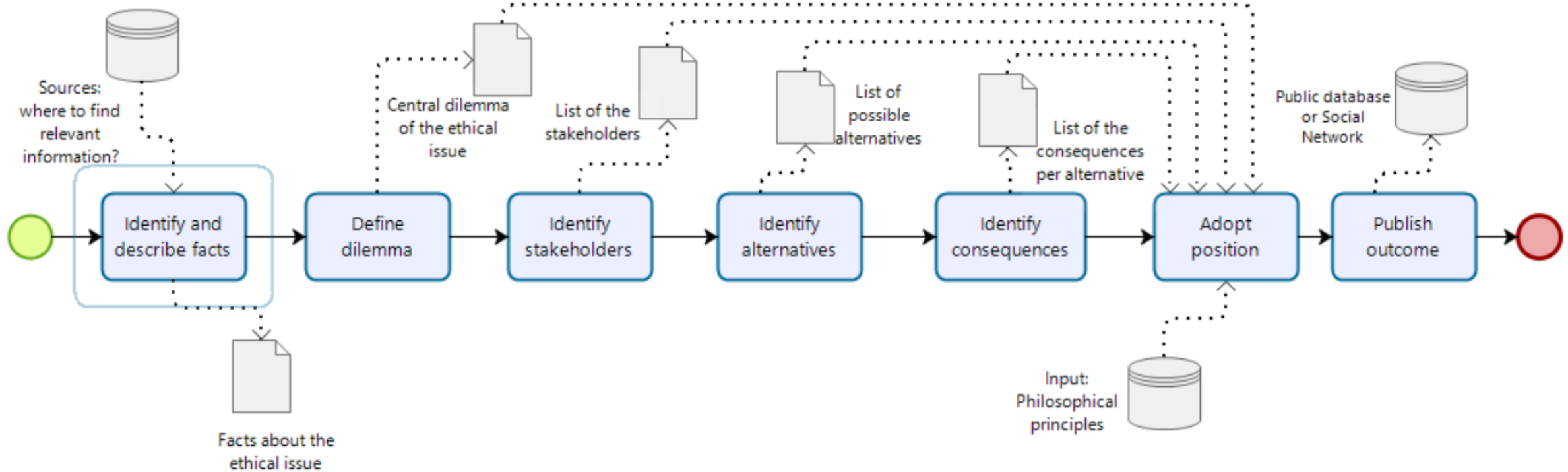
Socially-aware BPR: a constrained optimization problem

Maximize efficiency, while limiting a pre-defined social budget (a compensation sum)

A process to support decisions on ethical issues



Deliberate over an Ethical Issue in IS



Theoretical foundation



Idealism

- Goodness is found in perfection and evil is the distortion of the ideal
- Ethical imperatives can never change
- Idealists judge the action itself and not its consequences
- A philosopher of this line is Immanuel Kant
 - How to establish a modern foundation for ethics that is both timeless and universal (always valid everywhere)?
 - If an action is not right for everyone, then it is not right for anyone
 - If everyone did that, could the organization or society survive?

Realism

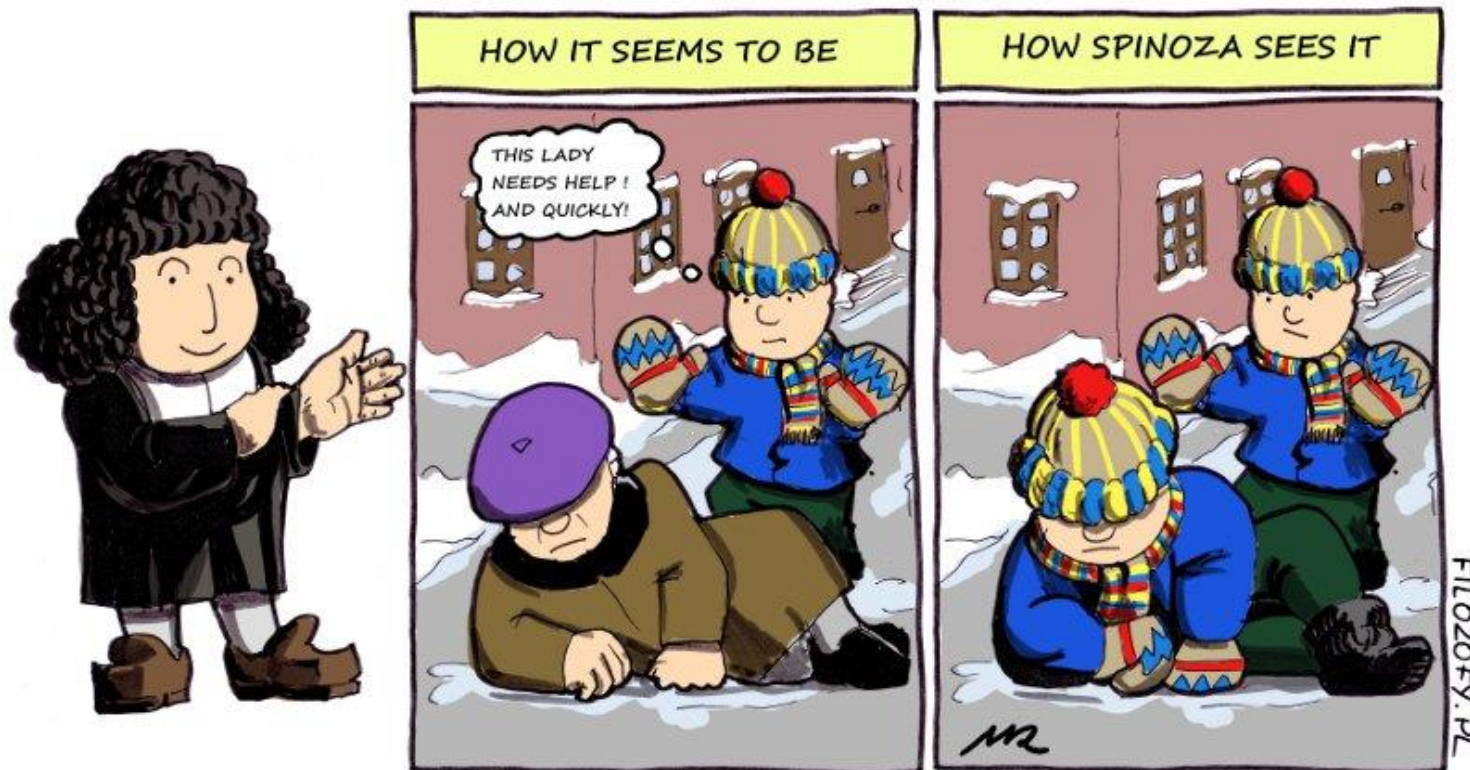
- All knowledge is obtained through the senses
- Kindness is found by living a life of virtue in harmony with nature
- A philosopher who represents this line is John Locke
 - Man, in a natural state, is governed by the laws of nature where everyone is equal, and no individual should harm another. One has the right to use force to defend your rights, but not to harm the rights of other individuals
 - Your right ends when the others' rights begins

Pragmatism/Utilitarianism

- Reality is a process, change
- The value of something is determined solely in terms of its usefulness in achieving an end
- The end justifies the means
- A philosopher who exemplifies this line is Stuart Mill
 - Principle of Utility: the action with "greater ethical value" is that which maximizes general happiness and minimizes pain; Calculation that seeks the greatest benefit for the greatest number of people (maximizing pleasure)
 - Choose the action that produces the best cost / benefit ratio

Spinoza

THE WORLD BY PHILOSOPHERS: SPINOZA AND HELP



- "Active joy"
 - does not come to us merely as external "opportunity"
 - does not "submit" us, making us fearful of losing it
- Ethical action is not imposed on us as painful, and is perceived by us as, at least in the future, cheerful
- Group's active joy is relevant, but not calculated
- Good and evil are relative

Let's use it (in a simplified way...)

- Health Care Center
- BPM Initiative: digital transformation of processes
 - Redesign of elderly care services to include digital monitoring
 - Design of an eligibility process based on data



Identify and describe facts

What you need to know about digital health systems:

<https://www.euro.who.int/en/health-topics/Health-systems/digital-health/news/news/2019/2/what-you-need-to-know-about-digital-health-systems>

Sustainable Development Goal 3: Ensure healthy lives and promote well-being for all at all ages:

<https://www.un.org/sustainabledevelopment/health/>

Insights from research: Frennert, S. (2020) Moral distress and ethical decision-making of eldercare professionals involved in digital service transformation, Disability and Rehabilitation: Assistive Technology

*"Emerging technology challenges accepted assumptions, norms, and values – we need to question if **what we do today is more or less ethically correct in comparison with a digital solution...**"*

*"...they have a core range of digital services that they offer and if we need adjustments to our needs or other kinds of services, we can sometimes get them if we pay extra, but it is more of a **standardized universal package** than a smorgasbord of options ..."*

*".. I do not always choose to implement the best solution but hopefully **a solution that is good enough...**"*

*" ... my idea was that if we developed **an understanding of each patient's individual ... pattern, ...** however, sometime after the implementation I found out that the intervention was used to decide ..."*

Define
dilemma

Dilemma:

Matching the individual's needs with a digital care service solution

Identify
stakeholders

Eldercare professionals, Patients, Patients' relatives, BPM team, IT Consulting firm, Society

Identify
alternatives

1. Adopt the changes
2. Adopt the digital services but do not change the eligibility process
3. Stay as-is
4.

Identify
consequences

Alternative (1)

- a. IT developers might be in charge of the main decisions
- b. Standardized digital solutions might not address the individual needs
- c. Cost efficiency (instead of added value) might prevail

Adopt
position

We would ask the following question regarding each possible action (based on the rules of thought mentioned): :

- 1) Do the rights of one of the stakeholders is being violated on the behalf of the others?
- 2) Will the process have the same outcome for everyone?
- 3) Will the outcome of the process provide the best cost/benefit ratio for most of the stakeholders?
- 4) Will it be possible to assess the individual's well-being with this process according to him/herself?

What would be your decision?

Conclusion

Issues in an ethical approach to BPM

- Open communication and problem-solving
- Knowledge sharing and creativity among employees (the organizational capital)
- Interactions and relationships with suppliers, customers and other stakeholders (the relational capital)
- Retention of good talent (the human capital)

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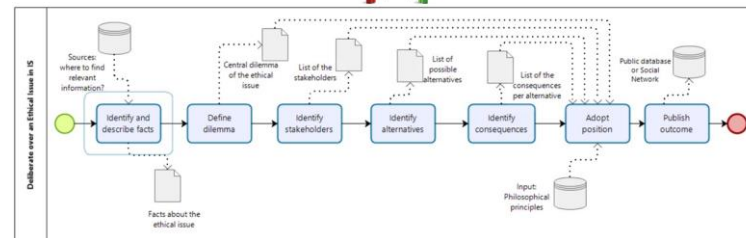
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What are the ethical dilemmas in BPM?

33

A process to support decisions on ethical issues



Process Science

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<https://www.scu.edu/mobi/resources-tools/blog-posts/ethics-in-life-and-business/ethics-in-life-and-business.html>

24

New BPM capability: Examine ethical issues!

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Let's talk about Ethics in BPM!

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Many questions must **yet** be formulated...



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