

A Digital critique the ugly, the beautiful and the reality

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Keynote

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ISCAP, IPP

A Digital critique: the ugly, the beautiful and the reality

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The digital as already a steady reality for most part of human activity.

We can no longer ignore it or not take it into consideration for our day-to-day life.

What about the way we deal with such reality?

How to deal with it for our communities and to plan in advance for a reality that seems less and less predictable, at least using traditional approaches?

This is the proposed starting point for a brief exercise to think ahead, considering sustainability issues.


Digital, what?

- Related with:
 - the use of **computers**
 - later **computer and communications**
 - the use of **electronic devices**
- But also:
 - To store, process and communicate **information**
- Impacts **time & space** notions
- **Counterpart** of our physical world, seen as analogue

digital [dij-i-tl] [SHOW IPA](#)  

See synonyms for: **digital / digitals** on [Thesaurus.com](#)

Dictionary.com: <https://www.dictionary.com/browse/digital>

 Elementary Level

adjective

- 1 displaying a readout in numerical digits rather than by a pointer or hands on a dial:
a digital speedometer;
a digital watch.
- 2 of, relating to, or using numerical calculations.
- 3 of, relating to, or using data in the form of numerical digits:
a digital image;
digital devices.
- 4 involving or using numerical digits expressed in a scale of notation, usually in the binary system, to represent discretely all variables occurring in a problem.
- 5 available in electronic form; readable and manipulable by computer:
Scan these two pages so you'll have them as a digital document.

[SEE MORE](#)

noun

- 11 one of the keys or finger levers of keyboard instruments.

Current issues

- The World is on **change**
- No one can envision the **impact** of the combined number of technologies that enter now their **maturity** (being AI one of them)
- Current **institutions** are no longer able to cope with such transformations *as is* and *net to be* (in an adapt or die forced sequence)
- How to consider the individual, the group, the community and the society towards such impacts within a sustainable **society**
- There are **choices** to be made and **values** to be prioritized

Considering digital technologies

From a world of opportunities

chance · contingency · fortuity · freedom

To a world of challenges

*objection · protest · test · threat · claiming ·
confrontation · dare · defiance*

Considering digital technologies

Possibilities, context
building & serendipity

From a world of opportunities

chance · contingency · fortuity · freedom

More possibilities,
increase complexity
& conflict

To a world of challenges

*objection · protest · test · threat · claiming ·
confrontation · dare · defiance*

Two forces that are/will shaping our action

Energy transition

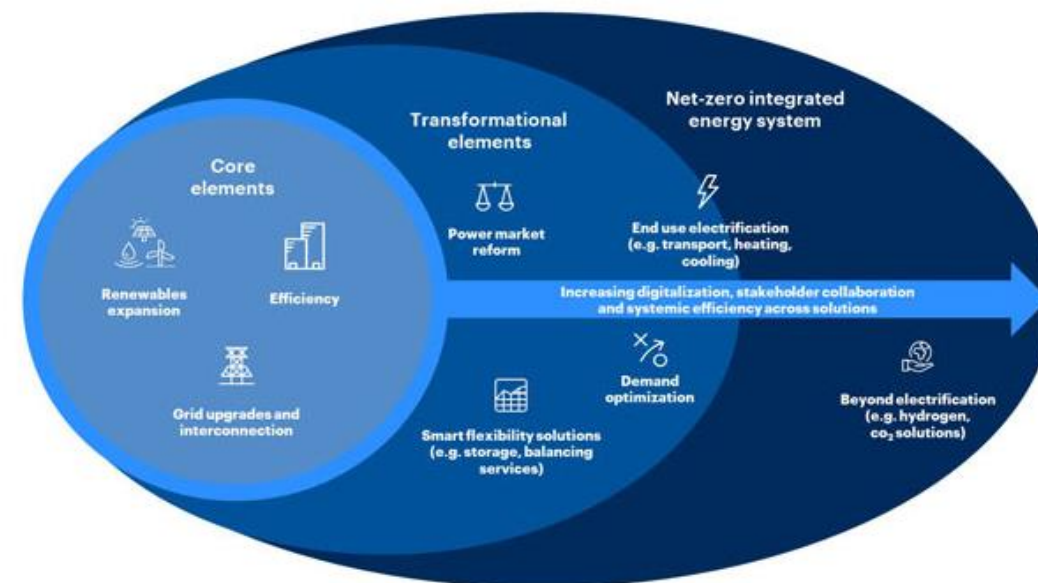
A Question of Survival

“how to change and adapt to the climate and its challenges?”

Digital transformation

A hope for the human being

“how can we organize ourselves in order to recover our human dimension?”



Digital Culture



Araújo, P. e Gouveia, L. (2020). Cultura Digital, definição e dimensões constitutivas: uma proposta para mapear e diagnosticar as condições de uso do digital nas organizações. In Souza Junior, A. et al. (2020). Diálogos sobre Tecnologia e Direito. Rio de Janeiro: Pembroke Collins. pp 359-378. ISBN 978-65-87489-24-7.

- **Digital**: related to computers and networks, represents the ability to represent and interoperate data, information and knowledge in order to facilitate their processing, storage and communication
- **Culture**: customs, social behavior of a group of people or society. It may include art and other manifestations of human collective ability and intellect
- **Digital Culture**: the creation of habits and practices of digital exploration in the representation of data, information and knowledge and also in the way we interact in society
 - Provides an **invasive and global culture**

CULTURE



easier
to
change



harder
to
change



<https://www.whaii.com/blog/your-corporate-culture-will-define-the-future-of-your-company/>

Digital Transformation



Gouveia, L. (2017). *Transformação Digital: Desafios e Implicações na Perspectiva da Informação*. In Moreira, F.; Oliveira, M.; Gonçalves, R. e Costa, C. (2017). *Transformação Digital: oportunidades e ameaças para uma competitividade mais inteligente*. 1ª edição, dezembro. Capítulo 2, pp 5-28. Faro: Silabas e Desafios. ISBN: 978-989-8842-28-2.

- Changes associated with the application of digital technology in all aspects of **human activity**
- Digital transformation can be considered the third phase of **digital adoption**:
 - Digital Skills
 - Digital literacy
 - Digital transformation
- The **use and exploitation of the digital** enables new kinds of innovation and creativity that leverage traditional methods of human activity
 - The **workforce** shifts from analog to digital
- Requires a **new approach** by the organization (and those responsible for the information)
 - From the survival mode state, to a state of **value production**

Digital transformation – **steps**

- **Digitation**
(turn the analogue, digital)
- **Digitalization**
(create digital)
- **Digital Transformation**
(new practices and behaviours)
- The **competencies** associated with the use and exploration of the digital:
 - knowing **what to do** with the digital (incorporating it into the material)
 - **when** to do it and what questions to ask
 - and **what** information is critical for this

Competences



Araújo, P. e Gouveia, L. (2021). Metodologia CHA: Uma proposta para o desenvolvimento de competências por meio da robótica na educação. In Capítulo 1, pp 9-22. Araújo, P.; Araújo, D. e Gouveia, L. (orgs). (2021). Reflexões sobre a Educação no Século XXI. Da tecnologia à inclusão. Conhecimento Editora.

- The triad of KSA: **Knowledge** – **Skills** – **Attitudes**

Knowledge	Skill	Attitude
<u>know</u>	<u>Know how</u>	<u>Want to do</u>
Specific technical knowledge, education, experience, and other expertise	Practical experience and mastery of technical knowledge through its concrete application and skill in performing it	Personal characteristics that lead one to practice or not, what one knows and knows

Hybrid

an emerging trend or making the new from the old

 hybrid
/ˈhaɪbrɪd/

Ver definições em:

All Biology Linguistics Motoring Horticulture

noun

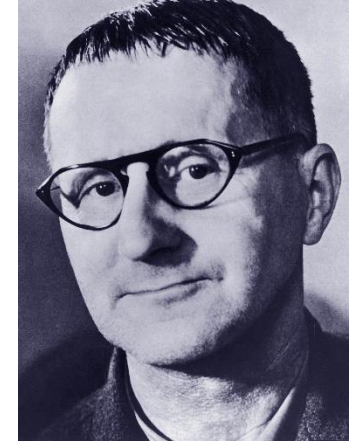
1. **BIOLOGY**
the offspring of two plants or animals of different species or varieties, such as a mule.
"the bird was a hybrid of a goose and a swan"

Sinónimos: cross cross-breed mixed-breed mixture blend meld

2. a thing made by combining two different elements.
"jungle is a hybrid of reggae and house music"

adjective

of mixed character; composed of different elements.
"hybrid diesel-electric buses"



***“You take nothing
from nothing, the new
comes from the old,
but it is no less new
for that”***

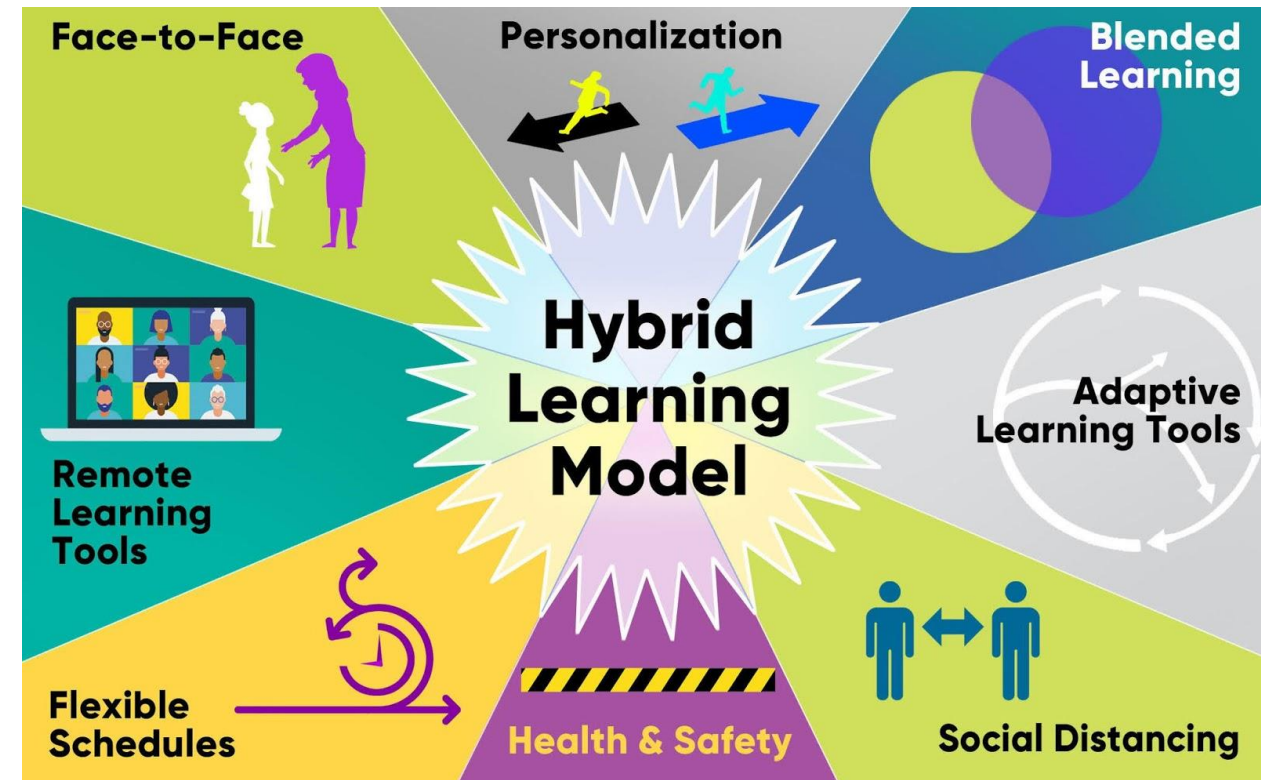
**Bertolt Brecht (1898, 1956)
about the theme of novelty**

One example Hybrid Education

- In **modality**:
 - Presential and remote, considering their coexistence and overlapping
- In **practices**
 - More **collaborative** and **participatory**, providing a more effective use of the attention and time of all participants
- In **teaching strategies** (active methodologies)
 - Problem based learning, Project based learning
 - Competences & skills based learning, peer learning
 - Inverted classroom, among others
- In the **service** to those who learn and those who teach
 - **personalization, gamification, and learning paths**
 - **content curation**, also of data, information and processes
 - **datification** fair and focused in the user (implies privacy compliance and the aid in the creation of safe contexts, for individual activity) – against the idea of the product is the user
 - **automation** of practice in processes related with the teaching and learning



Rocha, D.; Gouveia, L. e Peres, P. (2021). *Práticas pedagógicas inovadoras: novos desafios. Capítulo 2. In Rocha, D. et al. (org.). Aprendizagem digital: curadoria, metodologias e ferramentas para o novo contexto educacional. Porto Alegre: Penso, 2021. ISBN: 9786581334147*



<http://esheninger.blogspot.com/2020/06/moving-to-hybrid-learning-model.html>

Some ideas

Possible ways forward...

- Reinventing our notions of **time and space**
- Reinventing the function of **processing information**
- Dealing with the challenges of **information**
- What is **fair** and what to protect and how (e.g. person or people?)

Doing this in a network!
(diversity is key)



The case for **information management**

How & why digital platforms are key

- Digital platforms are key to support **power relations** with other
- A state **must have its own** digital platforms
- Any type of organization has or want to have (**IMPOSE**) its digital platforms

IN ORDER

- To **control** relationships instead of interactions
- To collect and relate **data**
- To **have** its own unique information, available in real time
- To aggregate **value** and foster its network capabilities

Solutions?
Digital
leadership?

If you not beat them (digital platforms),
join them...

Create **digital ecosystems** that:

Protect privacy
(sensible data)

Reduce entropy (filter
relevant information)

Control and monitor
activity (regulate the
action)

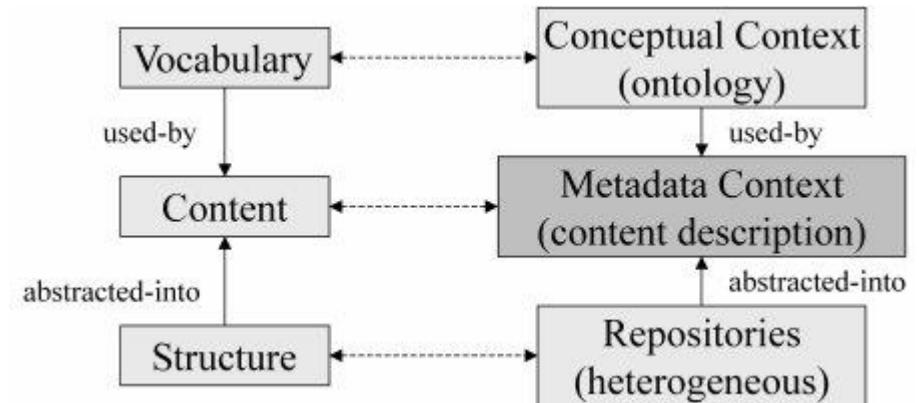
Digital Leadership

Create their own digital space

Produce value by exploring owned
digital platforms

Interoperability is key

- Considering the traditional:
 - **System** (data presentation)
 - **Syntactic** (data language)
 - **Structural** (data architecture)
 - **Semantic** (data context)
- But also within **higher abstraction levels**
 - Information
 - Knowledge
 - Process
 - Operations
 - Digital platforms
 - Between digital platforms (**digital ecosystems**)



https://www.researchgate.net/publication/2562778_Practical_Context_Transformation_for_Information_System_Interoperability/figures

Beyond Internet – the Metaverse

The new frontier (*a lot of further research is needed*)

- The idea of **digital ecosystems that can be shared and integrated or interoperable with the analogue reality**
- Metaverse, as a concept, have existed for a long time
 - digital shared universes where we can take on whatever personality we want, or work together on collaborative projects
- **NFTs** resolve the unique and value issue of digital original/copy equality



Stephenson's cyberpunk novel *Snow Crash*, where the term first appears to have been used. *The Matrix* movies, the Second Life world, among others are first manifestations

<https://bernardmarr.com/what-is-the-metaverse-an-easy-explanation-for-anyone/>

Beyond real space (the place)

Phygital: physical and digital

- **Merge and combining** the physical (analogue) and the digital realities
- Provides a more integrated mix of the use of ICT for **mediation** of day-to-day human related activities
- Applies to:
 - Data gathering along with **integration and easy of information management**
 - Customisation of **person related activities**
 - Faster, more complex and informed support to **strategic decisions**
 - Less time/effort in **getting things done**
 - Higher user satisfaction, less **information attrition**



<https://insight.ikano/digital-real-life-experiences/>



<https://blog.kryll.io/content/images/2022/01/image-24.png>

Concluding remarks

*The new
technology
are
people*

WANTED:

ETHICAL

GOD-FEARING CLEAN & HONEST TRACK RECORD PROVEN INTEGRITY

EFFECTIVE

COMPETENT GOOD TRACK RECORD DECISIVE AND PROACTIVE

EMPOWERING

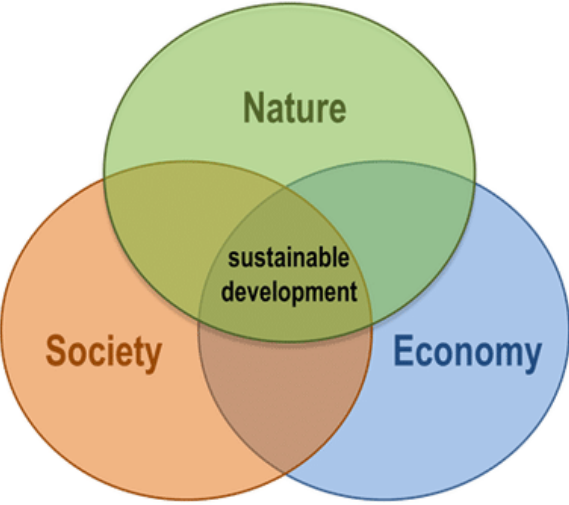
PARTICIPATIVE AND ENGAGING INSPIRING SOCIALLY JUST

GOVERNMENT

LEADERS

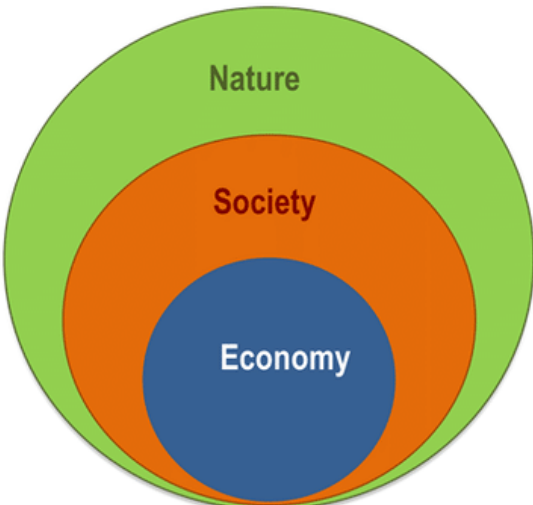
(Yes, we believe they exist.)

Desafio: sustentabilidade, resposta: ODS



Weak sustainability

Based in Brundtland 1987.



Strong sustainability

Giddings 2002.



VALUE

PEOPLE

- **Entrepreneurs** will create more wealth in the next decade than we did in the *past century*
- We'll also experience the **reinvention** of every industry
- **Understanding** how to navigate this accelerating technological change is essential

Who will those people come from?

- Hope they come HEIs (Higher Education Institutions) who **master knowledge** and have the competences for it (knowing know and want to do it) with **ethics**
- Thus, **proving the care for a better and fair world**, maybe people centered (with those who *make things right and fair*)

The centre of human activity is not (anymore) in the individual, it should be in **the construction of affective and intellectual relationships**, also based on technical knowledge between those who learn and those who teach, also supported by **digital platforms**

Thus turns both **context creation & digital ecosystems** central to the emergent communities and geographic spaces allowing them to be sustainable within the near future

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MSc in *Electronic and Computer Engineering* from the Faculty of Engineering, University of Porto.

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Belongs to the advisory board and north direction of APDSI - Association for the Promotion and Development of the Information Society, a Portuguese NGO with tradition in the discussion and dissemination of digital issues in society, with more than 20 years.

Main interests:

how to explore the digital potential to improve human activity and support information management

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