

The Concept of Digital Trust – Introduction and Educational Cases

University of Applied Sciences and Arts Northwestern Switzerland, FHNW:
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MECyS international conference, April 2025, based on a presentation held at degoeb 2025



<https://www.datapro.education/>

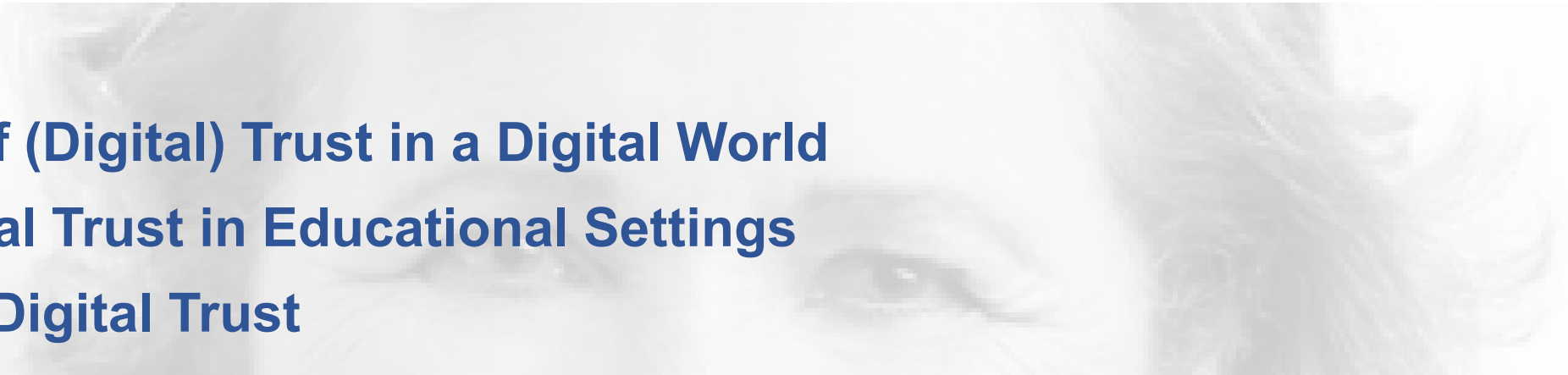


<https://digitaltrust-competence.ch/>

Agenda for the next 20min

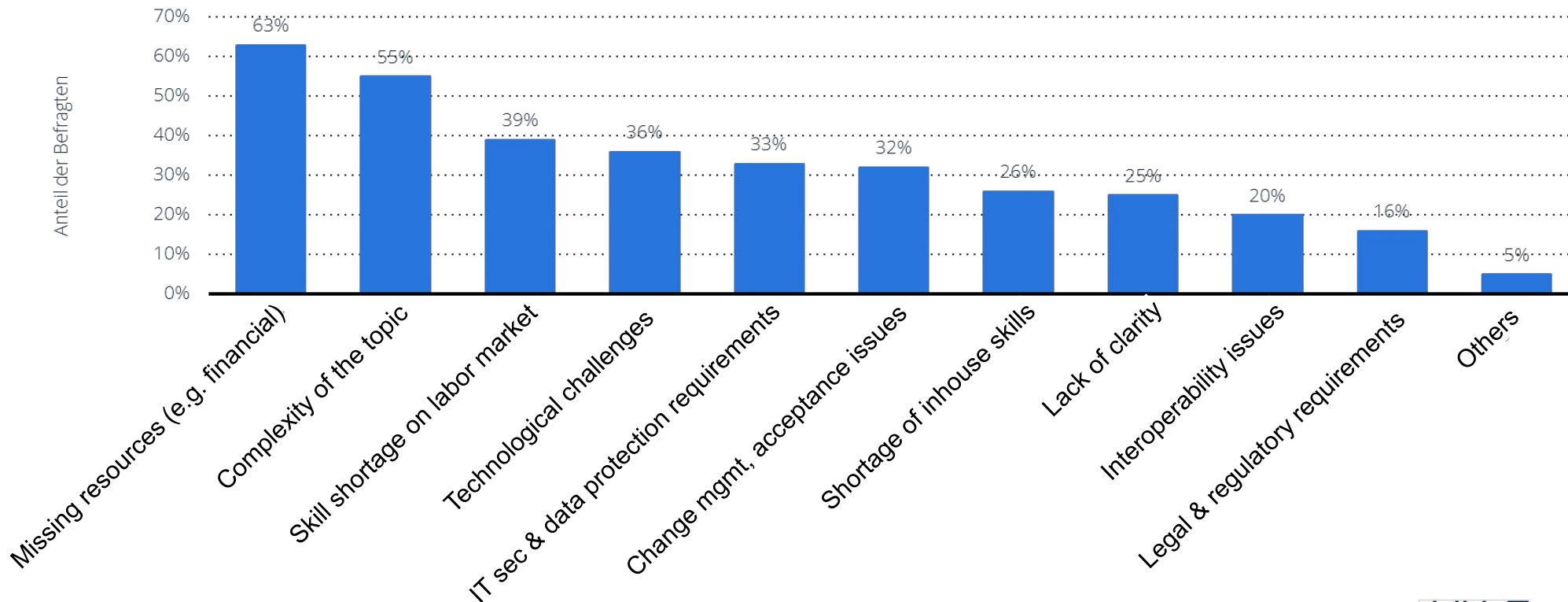
We talk about

- **The Concept of (Digital) Trust in a Digital World**
- **Cases on Digital Trust in Educational Settings**
- **An Outlook of Digital Trust**



Digital Transformation – Our World is Digital

What are the main challenges for your company when introducing the individual components of Industry 4.0?



Hinweis(e): Deutschland; Juli bis August 2023; 104 Faci.- und Führungskräfte aus dem produzierenden Gewerbe
Quelle(n): BearingPoint; ID 1536060

statista

Digital Transformation – (also) Creates Fear

Study from Austria

IFES Study 2023

- Fear of surveillance
- Fear of less co-determination
- Fear of exclusion

Study from Germany

iBusiness Study 2019

- Fear of data misuse
- Fear of cybercrime
- Fear of surveillance
- Fear of cyberterror
- Fear of fake news

Studie from Switzerland

Digital Health Report 2023

- Fear of data misuse
- Fear of loss of control
- Fear of digital divide

*sources: https://www.arbeiterkammer.at/interessenvertretung/wirtschaft/konsument/Presseunterlage_20230202.pdf; <https://www.absatzwirtschaft.de/die-digitalen-aengste-der-deutschen-223794/>;;
<https://impact.zhaw.ch/de/artikel/was-ist-dran-an-den-5-groessten-bedenken-gegen-digital-health>*

Digital Transformation – „Trust is Key“

“Trust is the key to the digital economy. Everyone agrees on that. If people do not feel safe online and do not trust what is offered to them via the internet, then they will not use it or the potential of digital will not be exploited to the full.”

Foreword translated from “Vertrauensmessung in der digitalen Welt“

Source: Schubert M. (2014) Vertrauensmessung in der digitalen Welt. Übersicht und Ausblick. DIVSI Diskussionsbeiträge 06. Deutsches Institut für Vertrauen und Sicherheit im Internet (Hrsg.)

The Concept of Digital Trust (1/2)

2024 State of Digital Trust Report

FIGURE 2: Digital Trust-related Benefits

Respondents report that high levels of digital trust can lead to the following benefits:

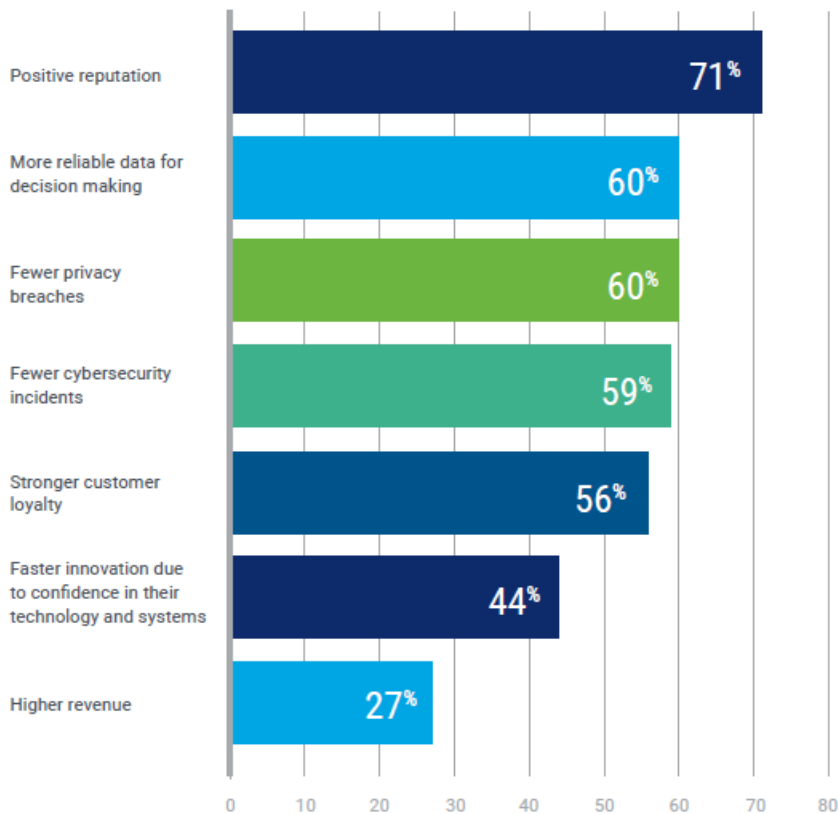
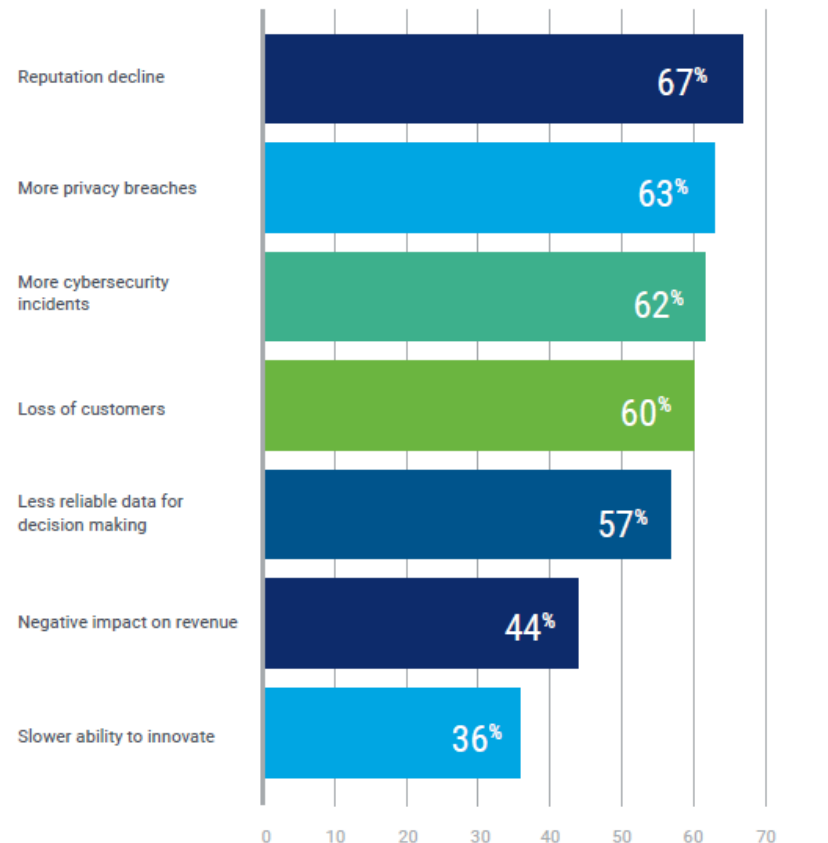


FIGURE 3: Consequences of a Lack of Digital Trust

Respondents say organizations with a low level of digital trust often experience the following consequences:



DIGITAL TRUST DEFINED

Digital trust is the confidence in the **integrity** of the relationships, interactions and transactions among providers and consumers within an associated digital ecosystem. This includes the ability of people, organizations, processes, information and technology to create and maintain a trustworthy digital world.

Source: ISACA 2024 State of Digital Trust Report (read the report): <https://www.isaca.org/resources/reports/state-of-digital-trust-2024>

The Concept of Digital Trust (2/2)

KEY FACTORS OF DIGITAL TRUST

- **Quality**—Assure products and services meet or exceed expectations.
- **Availability**—Enable access to information and services in a timely manner.
- **Security and privacy**—Ensure all data is protected and kept confidential.
- **Ethics and integrity**—Live up to all promises.
- **Transparency and honesty**—Be truthful in how information is used and if it is compromised.
- **Resiliency**—Take steps to ensure organizational stability and agility.

Cybersecurity & Resilience

Data Privacy

Emerging Tech

Data Ethics

Governance, Risk & Compliance

Focus of FHNW
Competence Centers
Digital Trust

<https://www.fhnw.ch/de/die-fhnw/hochschulen/hsw/iwi/digital-trust>

Source: ISACA, Digital Trust report (read the report): <https://www.isaca.org/resources/reports/state-of-digital-trust-2024> (see paper on Moodle)

Educational Cases

- **Cybersec: Social Engineering Elective by Movetia Swiss-Africa Community**
- **Data Privacy: Data Privacy Module by the EU Project MECyS**
- **Emerging Tech: Digital Trust Radar by the Competence Centers Digital Trust**

Case #1: Social Engineering Elective by Movetia Swiss-Africa Cybersecurity Community

About the Project – Swiss-Africa Cybersecurity Community

We work towards a collaboration platform to foster cross-cultural exchange, enhance cybersecurity skills, and facilitate research collaboration among Swiss educators, researchers, and students with counterparts in African HEIs.

Our expected results include:

- A stakeholder map
- An easy-to-maintain platform
- Workshop/exchange materials
- Research publication
- Pre- and post-survey



<https://www.fhnw.ch/plattformen/swissafricacysec/>

Project Sponsor: Movetia International Programme

Project Duration: 18 months (Sept 24 – Mar 26)

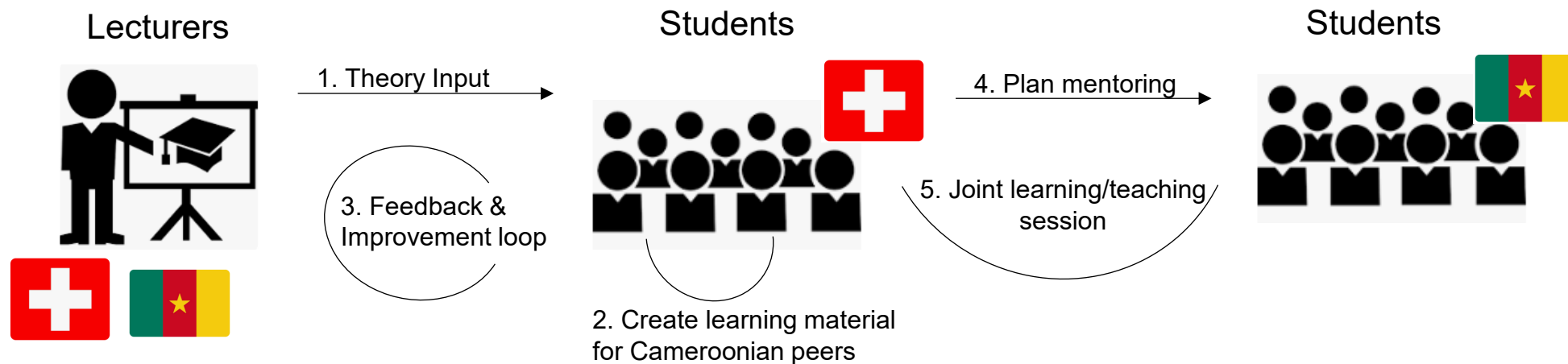
Number of Partners: 10 partners (5 African partners and 5 Swiss partners)

Case #1: Social Engineering Elective

Background:

- Cybersecurity is an increasing global issue, with **Social Engineering** as a main threat.
- **Human** is the main target for attacks and individual behaviour is **influenced by cultural aspects**.

Concept: A cybersecurity education program – focused on social engineering – designed as Collaborative Online International Learning ([COIL](#))



Social Engineering – Mobile Money Services
In Cameroon, mobile money generated 17.5% of the GDP in 2017 and made it possible to control the risks associated with savings operations in households

member of swissuniversities AACSB ACCREDITED

20 November 2023 Hermann Griedler, Competence Center Digital Trust www.fhnw.ch/business

n|w University of Applied Sciences and Arts Northwestern Switzerland School of Business

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Student Awards

- Sakwe Hansel Nkele
- Afanyu Precious Nganji
- Lukong Alexander Fonyuy
- Sandrine Wihbedimbom
- Kouti Divine
- Bernard Nwefor
- Dzeben Ngalim Arnold
- Ngouatea Metambia Wilfred
- Nsho Roh penuel Asonyu
- Ndanji Kery Achiri Junior
- Lukong Alexander Fonyuy
- Maldini Cubana
- Ashu Valery Mbu
- Leonel Suh
- Tang Martin Nijang
- Ombete Thomas Jacqui Junior
- Tatung Megane Bitekeh
- Fombi Christian Tegum
- Galma Aye Raissa
- Forka Junior Emmachris
- Felix

November 2023 Prof. Dr. Bettina Schneider, Competence Center Digital Trust www.fhnw.ch/business

n|w University of Applied Sciences and Arts Northwestern Switzerland School of Business

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Certificate of Attendance

Social Engineering Basics

The certificate is awarded to

Sakwe Hansel Nkele

For attending the Social Engineering Elective organized by the Competence Center Digital Trust, University of Applied Sciences Northwestern Switzerland, FHNW in collaboration with TURACOS and SwissLink Professional University, Cameroon on December 18th 2023

This activity was awarded by:

B. Schneider
Professor Dr. Bettina Schneider
Business Information Systems, FHNW
Co-head Competence Center Digital Trust

DIGITAL TRUST TURACOS

Case #2: Data Privacy Module by MECyS

Case #2: Data Privacy Education

Future decision-makers will be responsible for data protection

- New elective module at the FHNW School of Business (5 ECTS);
- Theoretical input on data protection, followed by group work;
- Structured according to four questions of MECyS learning path: What? How? Why? Why me?
- Objective: Students implement data protection in their own or a fictitious company as an example, e.g. Recycling Entsorgung Abwasser Luzern and Care Foundation.

- Learning flow:



Case #2: Microenterprise Cyber Security (MECyS)

Example of a working group

Datenverarbeitungsverzeichnis

Tätigkeit	Zweck	Betroffene Personen	Personendaten	Zuständige Stelle	Externe Empfänger	Drittland-transfer	Frist	TOM
Erstellung eines Benutzerprofils im Metaverse	Ermöglichung des Zugangs zur Plattform «Herbiverse»	Nutzer des Herbiverses	Benutzername, E-Mail-Adresse, Passwort	IT-Abteilung	Keine	Nein	Bis Löschung des Kontos oder 1 Jahr nach der letzten Anmeldung im Herbiverse	Siehe IT-Sicherheitskonzept + E-Mail-Verifizierung + Monitoring von Login-Versuchen + MFA

Student quote: "I now know what to do if I ever find myself in the position of data protection officer"

Course evaluation:

I rate my increase in competence as high.
4.3 out of 5

I can recommend this module to others.
4.5 out of 5



Tradition trifft Innovation
So wie wir unsere Bonbons mit Sorgfalt und Präzision herstellen, so schützen wir auch Ihre Daten: sicher, transparent und vertrauensvoll – die perfekte Mischung aus bewährten Werten und modernster Technologie.

Landkarte Personendaten

Mitarbeitende:

Generisch: Name, Kontaktdaten, Position, Abteilung, Arbeitsvertrag, Gehaltsinformationen, Sozialversicherungsnummer, Leistungsbewertungen, Schulungsdaten.

Spezifisch: Gesundheitsdaten (sofern arbeitsplatzspezifisch), könnten spezifische Anforderungen bei der Produktion oder im Umgang mit Lebensmitteln betreffen

Nutzer des Herbiverse (Kinder/Eltern, Erwachsene):

Generisch: Name, Kontaktdaten, Einwilligungserklärung.

Spezifisch: Daten zu Avatardinformatoren, Spielverhalten (Punktesystem, Kräutererfassung), und Nutzung von Punkten für Belohnungen im Zusammenhang mit Kräuterprodukten und spielerischen Elementen sind spezifisch auf Ricola und das Herbiverse zugeschnitten.

Zertifizierungsstellen (Halal, Bio) / Umweltorganisationen:

Generisch: Namen und Kontaktdaten der Zertifizierungsstellen-Ansprechpartner.

Spezifisch: Zertifikate, die für Kräuterqualität und ökologische Standards spezifisch für Ricola-Produkte sind.

Case #3: Emerging Technology Addressed by the Digital Trust Radar

Case #3: Digital Trust Radar

**E X P L O R I N G A I G U I D E L I N E S
I S M U C H E A S I E R N O W**

Project Objective:

Development of an interactive radar for business, administration and society for the trustworthy use of artificial intelligence.

Target Group:

Employees who are responsible for the legally compliant and trustworthy use / introduction of AI in companies

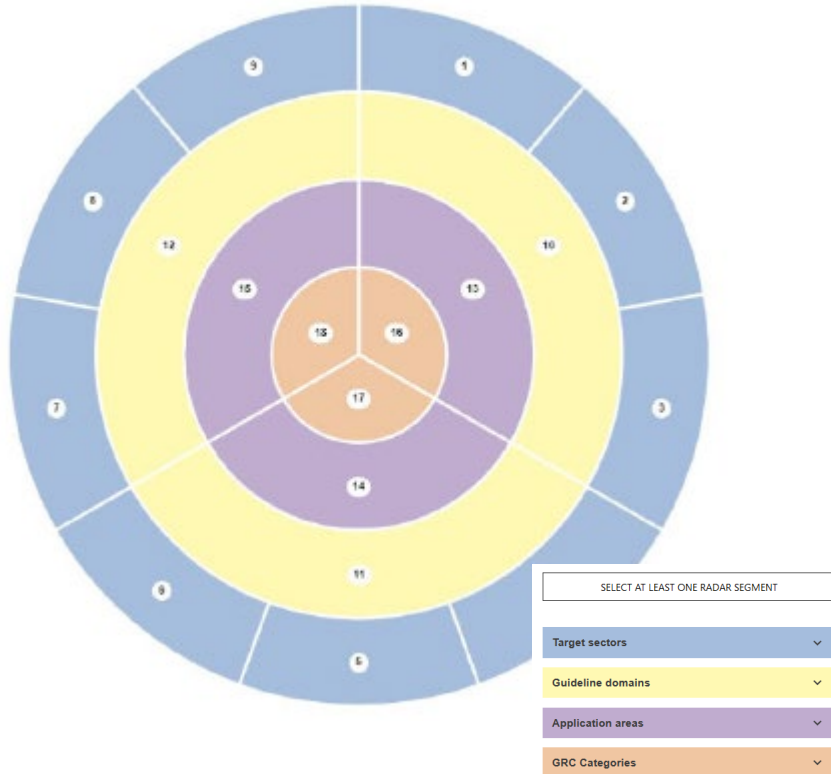
Project Duration: 01.10.2023 to 30.09.2024

<https://drive.switch.ch/index.php/s/6Ky03v4lrSBCjo1>

Case #3: Digital Trust Radar

The App

<https://radar.digitaltrust-competence.ch/>



RADAR

AI Guidelines [Imprint](#)

Guidelines

Here you find relevant AI guidelines based on your selected radar categories. For each guideline you can click "Read more" for a summary of and further information on the guideline or you click "Go to Website" for direct access to the guideline from the original source.

Your selection

Guideline domains: Ethics and Law

Target sectors: Science / Research

Type of guideline

Here you can further refine your selection based on the type of guidelines (law, standard, codex, guideline)

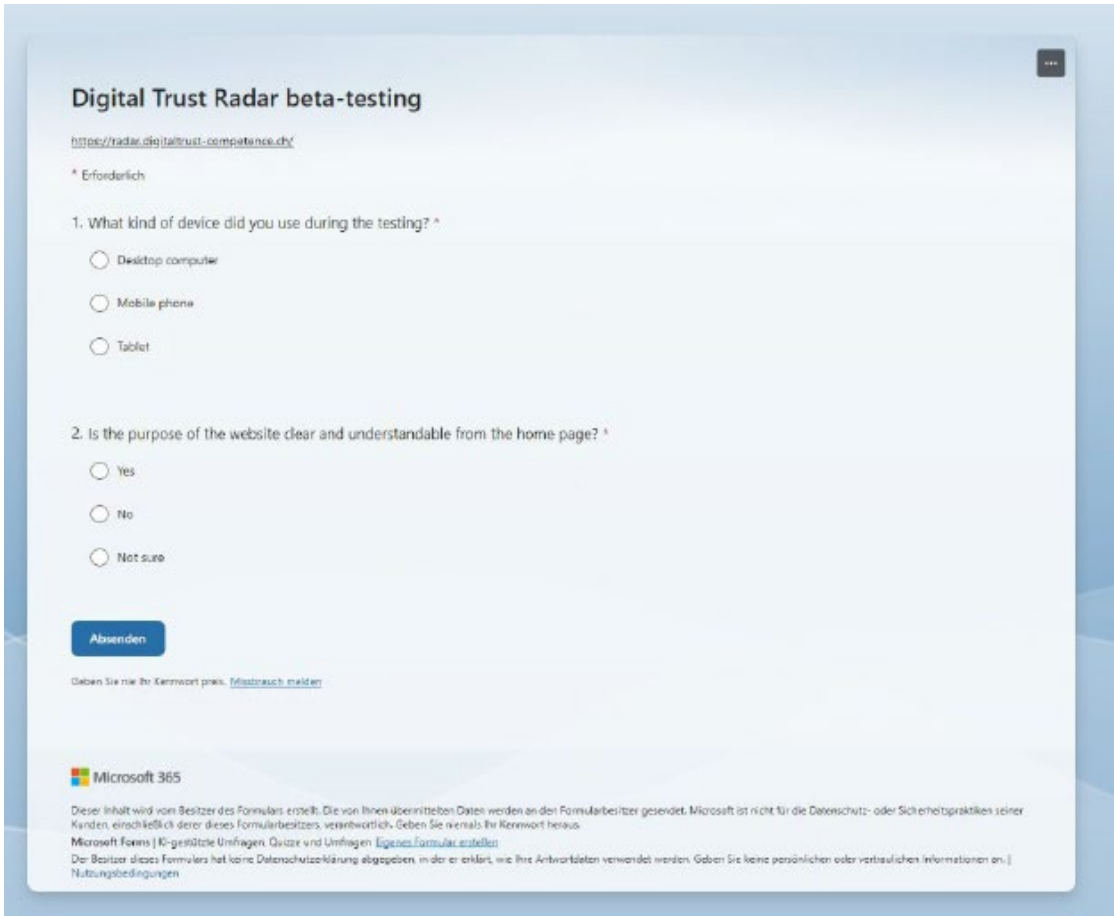
All

Guidelines

<p>GUIDELINE / RECOMMENDATION ETHICS AND LAW</p> <p>Living guidelines on the responsible use of generative AI in research</p> <p>READ MORE</p> <p>GO TO WEBSITE</p>	<p>GUIDELINE / RECOMMENDATION CYBERSECURITY, ETHICS AND LAW</p> <p>Ethics and governance of artificial intelligence for health: Guidance on large multi-modal models</p> <p>READ MORE</p> <p>GO TO WEBSITE</p>	<p>GUIDELINE / RECOMMENDATION ETHICS AND LAW, CYBERSECURITY</p> <p>Ethically Aligned Design</p> <p>READ MORE</p> <p>GO TO WEBSITE</p>
<p>GUIDELINE / RECOMMENDATION ETHICS AND LAW, TECHNOLOGY AND METHODS</p> <p>Me-We-It: An Open Standard for Responsible AI</p> <p>READ MORE</p> <p>GO TO WEBSITE</p>	<p>ETHICS AND LAW, CYBERSECURITY</p> <p>Artificial Intelligence in Healthcare</p> <p>READ MORE</p> <p>GO TO WEBSITE</p>	<p>ETHICS AND LAW, CYBERSECURITY, TECHNOLOGY AND METHODS</p> <p>Regulatory considerations on artificial intelligence for health</p> <p>READ MORE</p> <p>GO TO WEBSITE</p>

Case #3: Digital Trust Radar

<https://forms.office.com/e/CR4gY9jaAW?origin=lprLink>



Digital Trust Radar beta-testing

<https://radar.digitaltrust-competence.ch/>

* Erforderlich

1. What kind of device did you use during the testing? *

Desktop computer

Mobile phone

Tablet

2. Is the purpose of the website clear and understandable from the home page? *

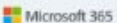
Yes

No

Not sure

Absenden

Geben Sie nie Ihr Kennwort preis. [Missbrauch melden](#)

 Microsoft 365

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Evaluation by (employed/experienced) students of the FHNW School of Business (HSW):

- MSc Module 'IT GRC'
- BSc Module 'Data Privacy'
- MSc Module 'Data and Ethics'

Main measure:

Extended support for users (tutorial, glossary, video tour,...)

Conclusion and Outlook

Limitation:

Concepts on Digital Trust (Still) in its Infancy:

- Different concepts/ideas depending on the discipline and target group.
- Excerpted thematization and no holistic educational approach/claim or evaluation.

Outlook for (Possible) Research:

Reference to the integrative competence model of economic education

Competence areas: Decision & Rationality; Relationship & Interaction; Order & System

Skills: Analyze & Understand; Evaluate, Consider & Judge; Design & Apply

Seeber, G., Retzmann, T., Remmele, B., & Jongbloed, H. C. (2012). Bildungsstandards der ökonomischen Allgemeinbildung. Kompetenzmodell–Aufgaben–Handlungsempfehlungen. Schwalbach/Ts.

«Digital Trust» - Quo Vadis?

Limits to the perception/‘creation’ of ‘digital trust’?

Solution: “Zero Trust”?

Solution: Outsourcing the decision (to AI? to a central body (Digital Trust Label)?)

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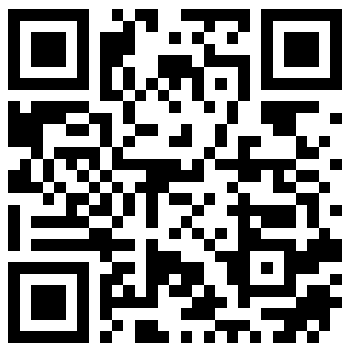
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