

Evaluation of participant feedback on OER material gathered during project EPSILON @ Harz University

Project EPSILON was co-funded by the European Union (2021-1-DE01-KA220-HED-000029711). All views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or DAAD. Neither the European Union nor the granting authority can be held responsible for them.



**Co-funded by
the European Union**

You are free to:

- Share — copy and redistribute the material in any medium or format for any purpose, even commercially.
- Adapt — remix, transform, and build upon the material for any purpose, even commercially.

Under the following terms:

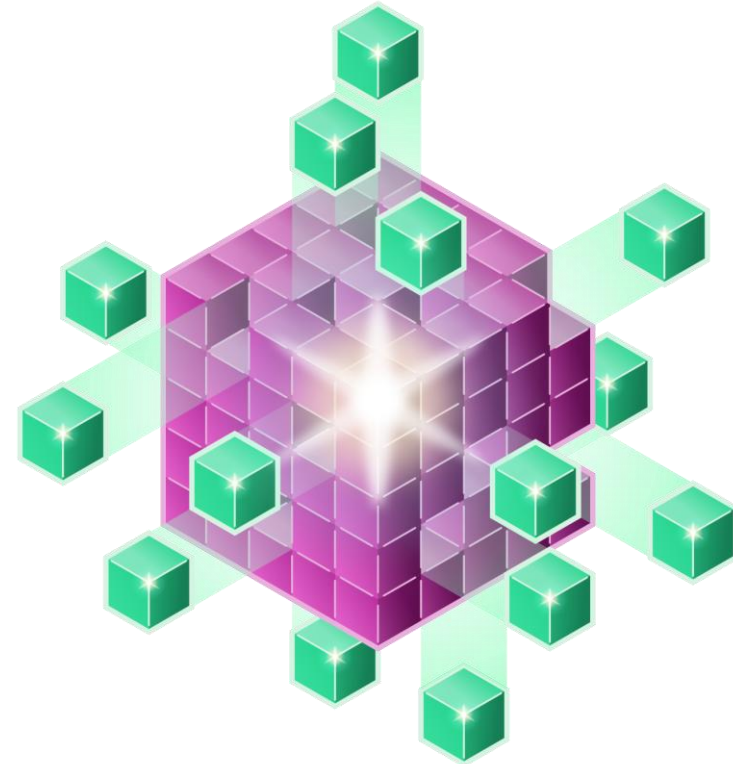
- Attribution — You must give appropriate credit, provide a link to the license, and indicate if changes were made. You may do so in any reasonable manner, but not in any way that suggests the licensor endorses you or your use.
- No additional restrictions — You may not apply legal terms or technological measures that legally restrict others from doing anything the license permits.



<https://creativecommons.org/licenses/by/4.0/>

Content

- (1) Feedback for the OER Teaching and Training Material from participants of EPSILON and Data Science students
- (2) Feedback for the OER Teaching and Training Material from experts in Statistics and Data Science
- (3) Feedback for the Multiplier Event about OER on December 18th 2024 (Magdeburg)
- (4) Overview of the data on the participants in the two LTTAs in Portugal and Germany



Public Domain Clip Art @ publicdomainvectors.org

**Evaluation of participant feedback on OER material
gathered during project EPSILON @ Harz University**

Feedback for the Teaching and Training Material from project participants and students



**Co-funded by
the European Union**

Who participated in the evaluation of the OER material?

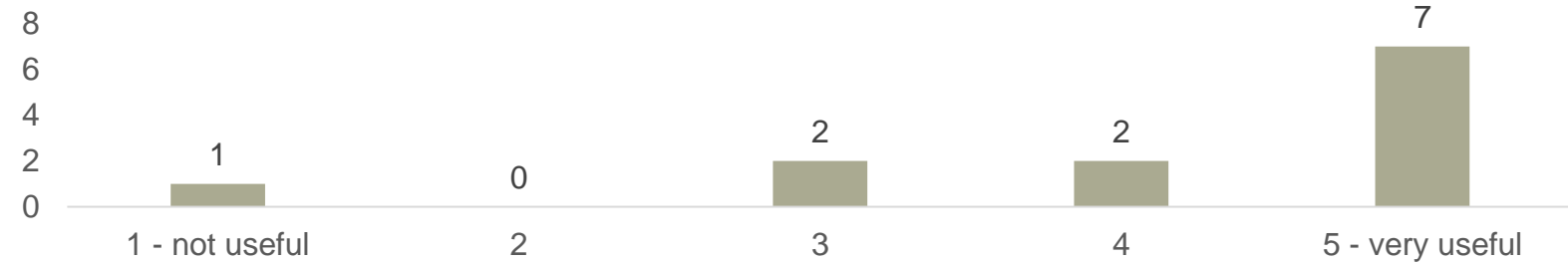


Participants at the EPSILON Training for International Students on September 24th 2024

- Six (6) participants (both students and NGO representatives) of the “EPSILON Training for International Students” held at Harz University on September 24th 2024
- Six (6) Data Science students from the Data Science Master Programme at Harz University
- Seven (7) Data Science experts from Harz University (2), the University of Cyprus (2), Vilnius University (2) and DSSG Portugal (1)

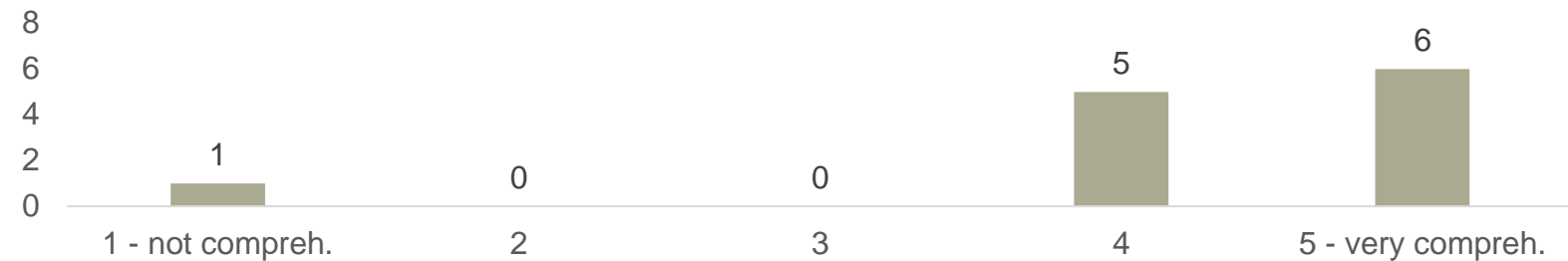
Feedback for the slide deck “Introduction to Data Science”

How useful did you find the slide deck “Introduction to Data Science”?

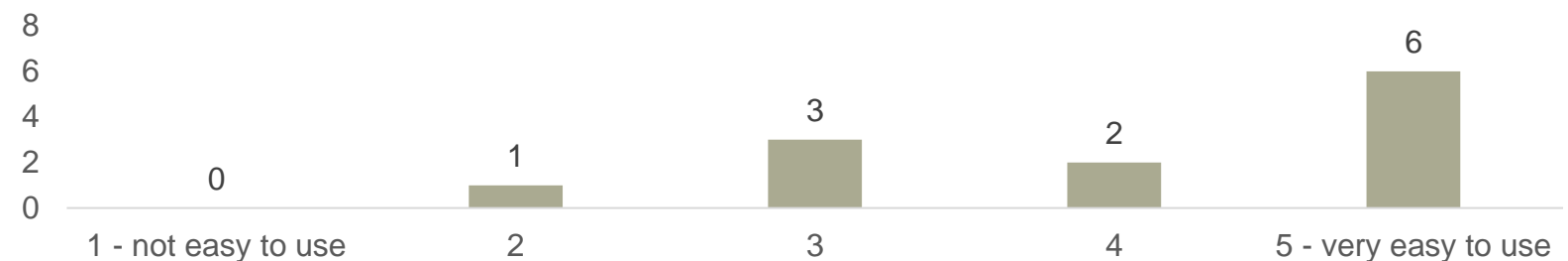


n=12

How comprehensive did you find the slide deck “Introduction to Data Science”?

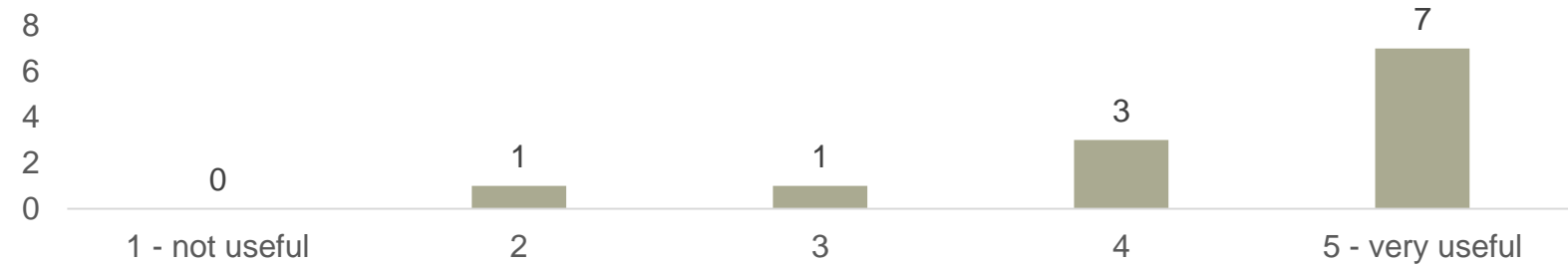


How easy to use did you find the slide deck “Introduction to Data Science”?



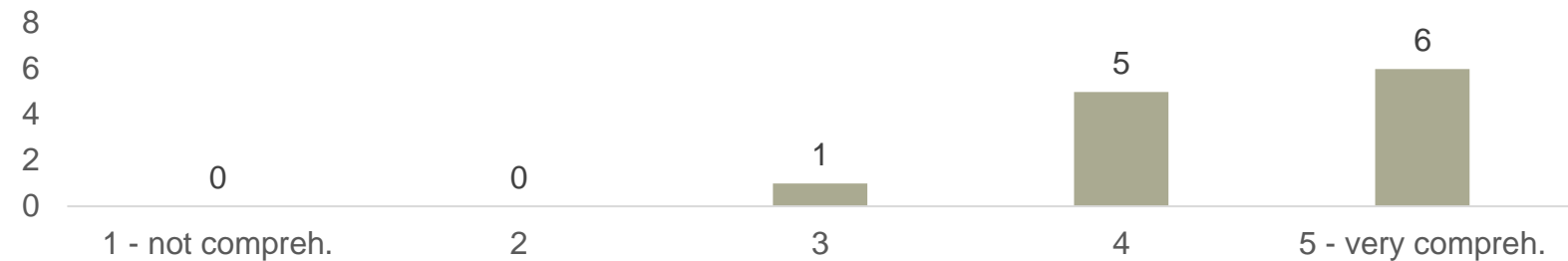
Feedback for the slide deck “Data Science for Social Good”

How useful did you find the slide deck “Data Science for Social Good”?

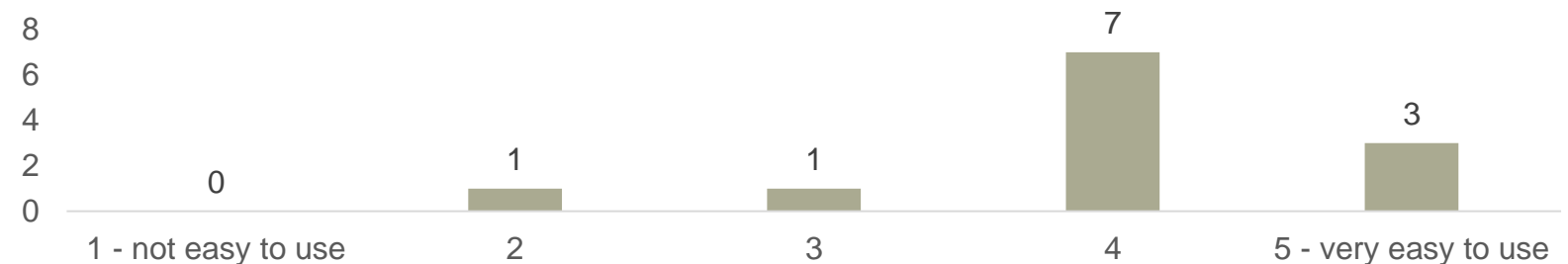


n=12

How comprehensive did you find the slide deck “Data Science for Social Good”?

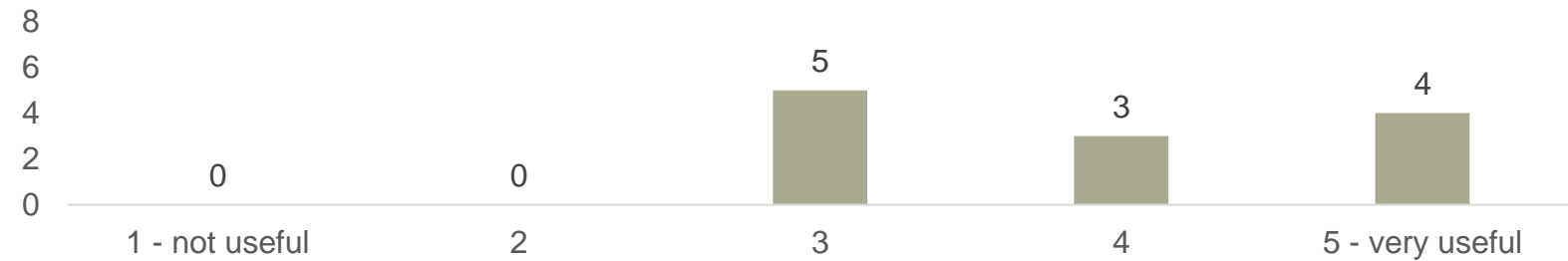


How easy to use did you find the slide deck “Data Science for Social Good”?



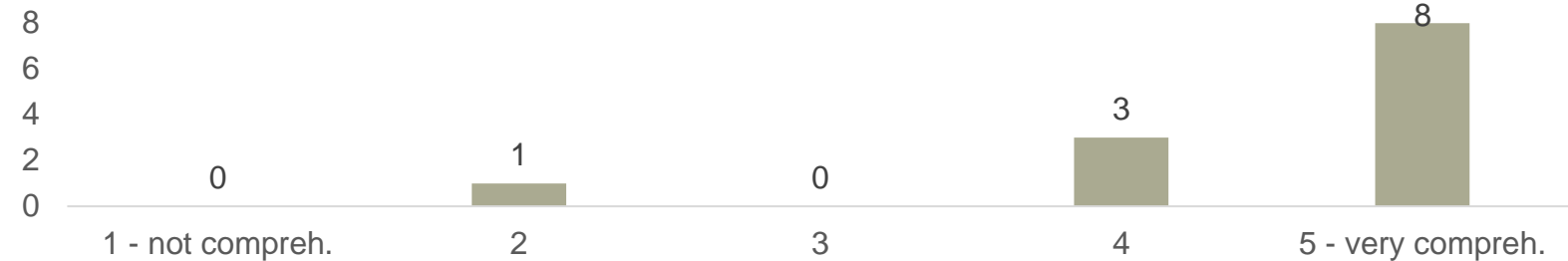
Feedback for the slide deck “Data for Good Initiatives”

How useful did you find the slide deck “Data for Good Initiatives”?

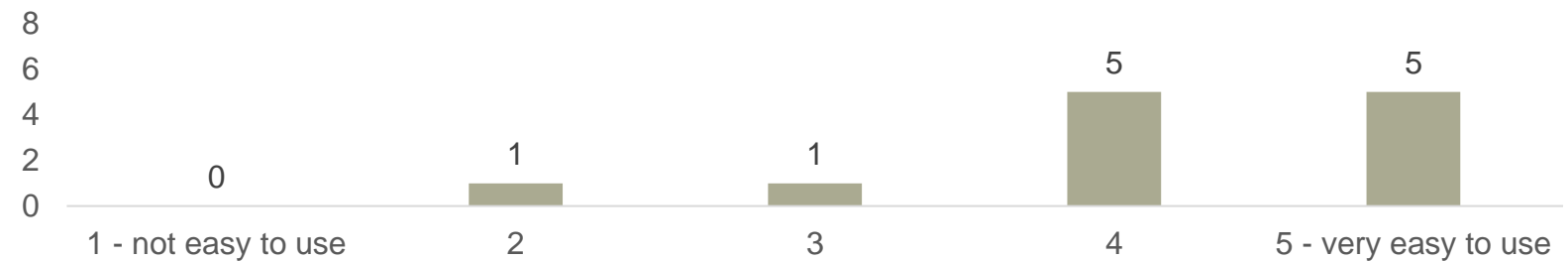


n=12

How comprehensive did you find the slide deck “Data for Good Initiatives”?

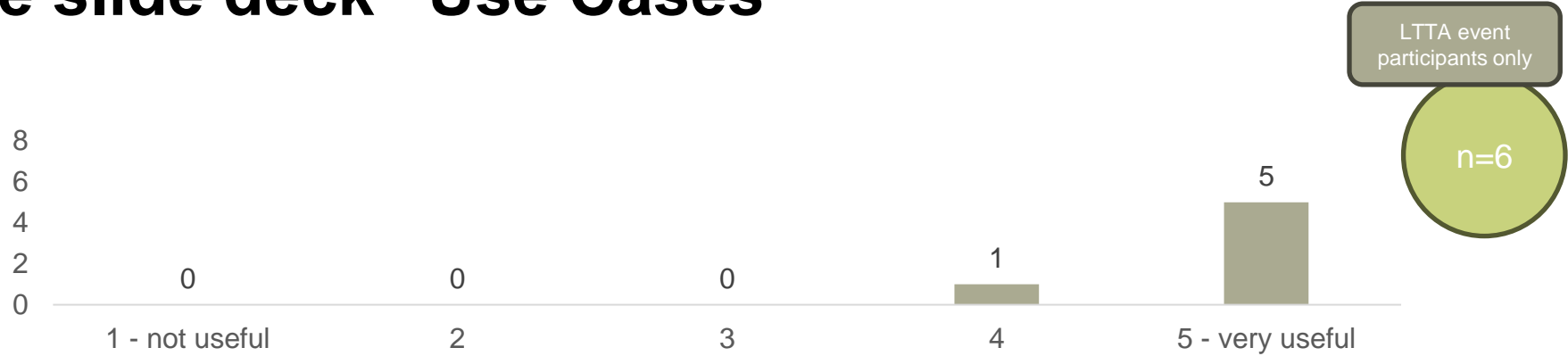


How easy to use did you find the slide deck “Data for Good Initiatives”?

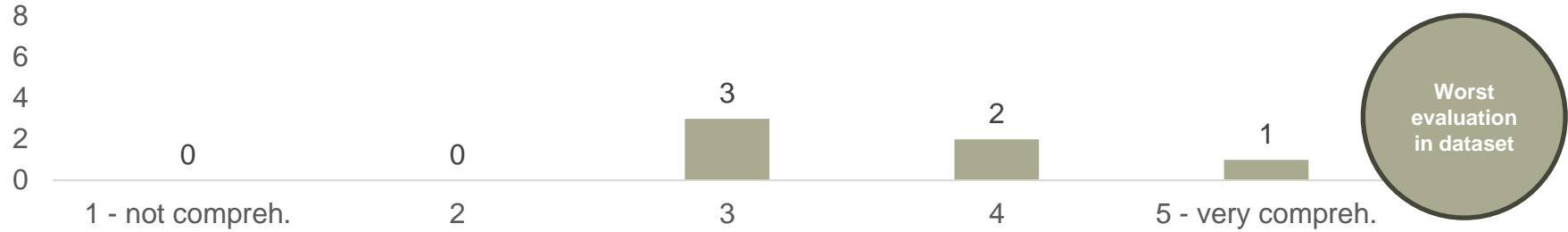


Feedback for the slide deck “Use Cases”

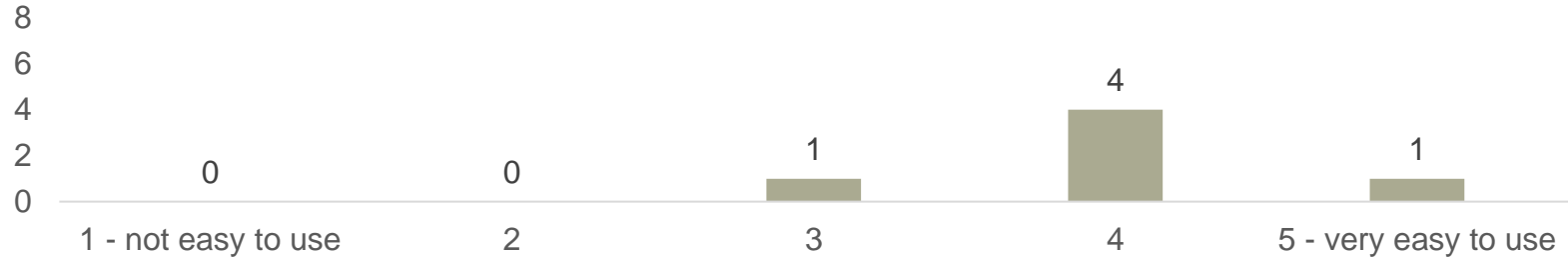
How useful did you find the slide deck “Use Cases”?



How comprehensive did you find the slide deck “Use Cases”?



How easy to use did you find the slide deck “Use Cases”?

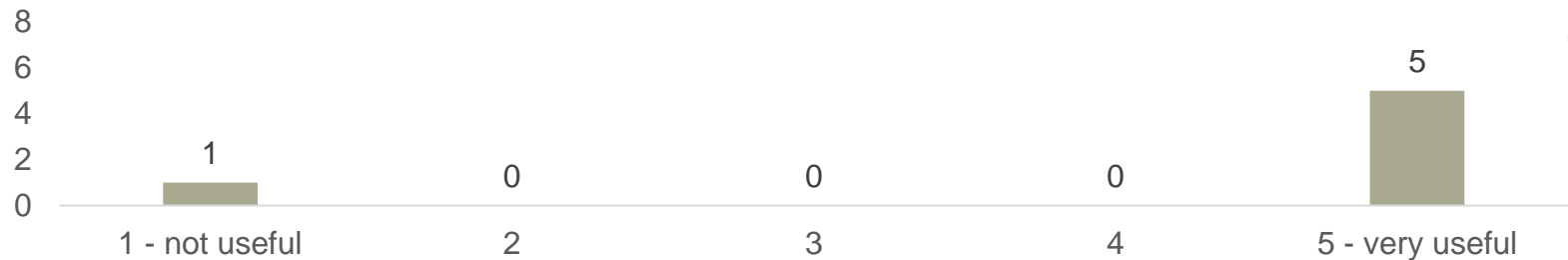


Feedback for the slide deck “Use Cases (Beginner)”

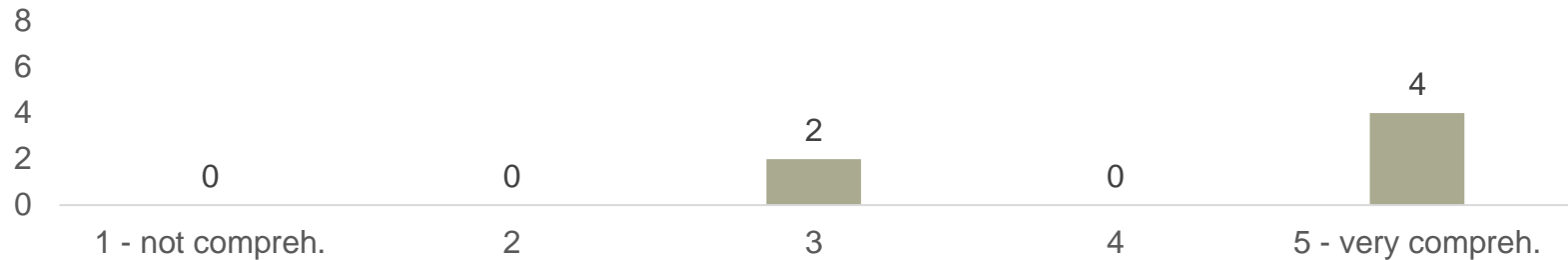
Data Science
students only

n=6

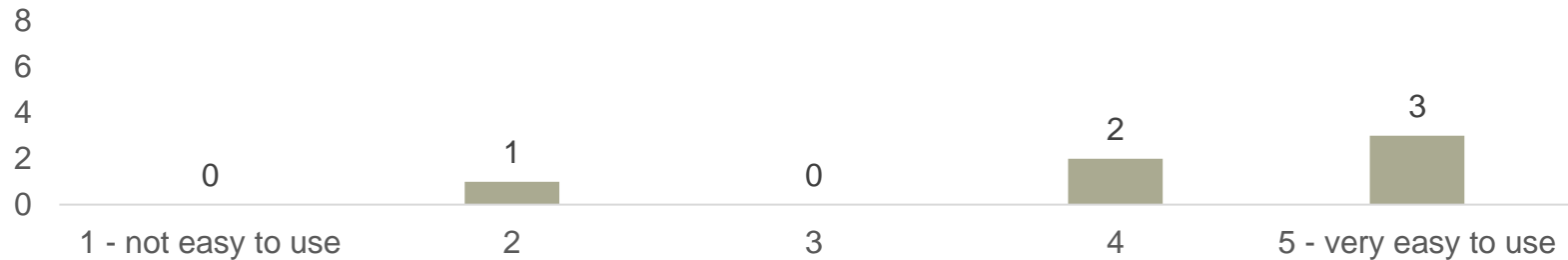
How useful did you find the slide deck “Use Cases (Beginner)”?



How comprehensive did you find the slide deck “Use Cases (Beginner)”?



How easy to use did you find the slide deck “Use Cases (Beginner)”?

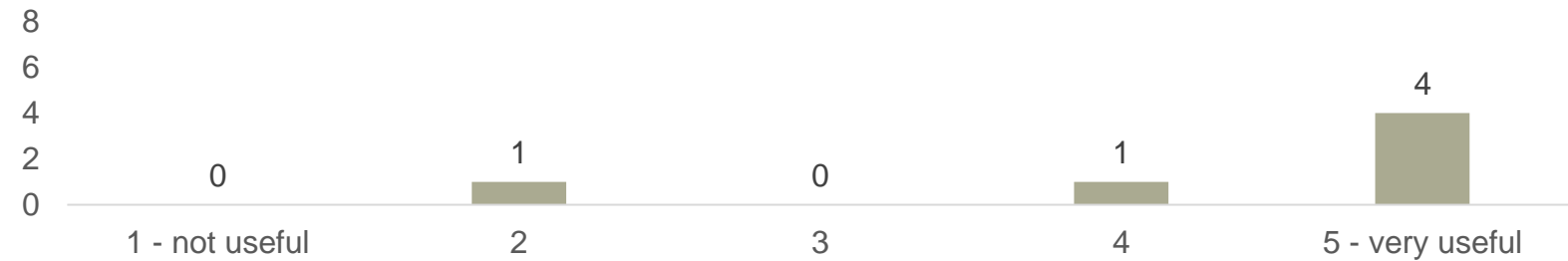


Feedback for the slide deck “Use Cases (Advanced)”

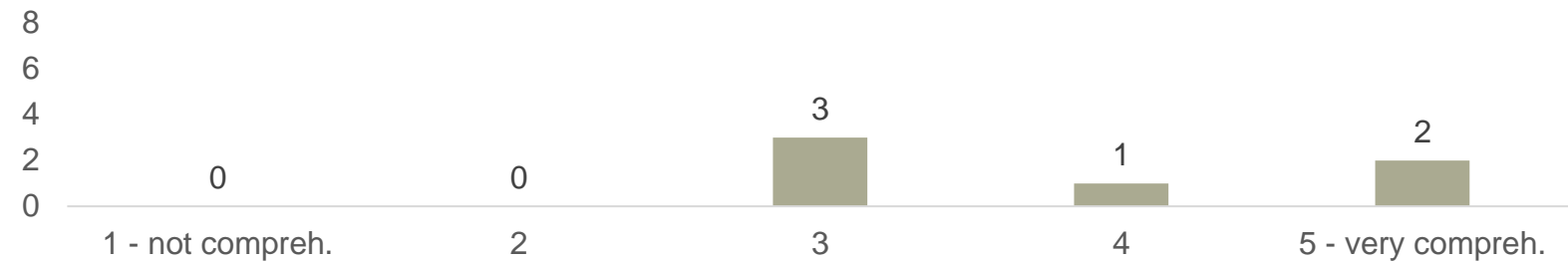
Data Science
students only

n=6

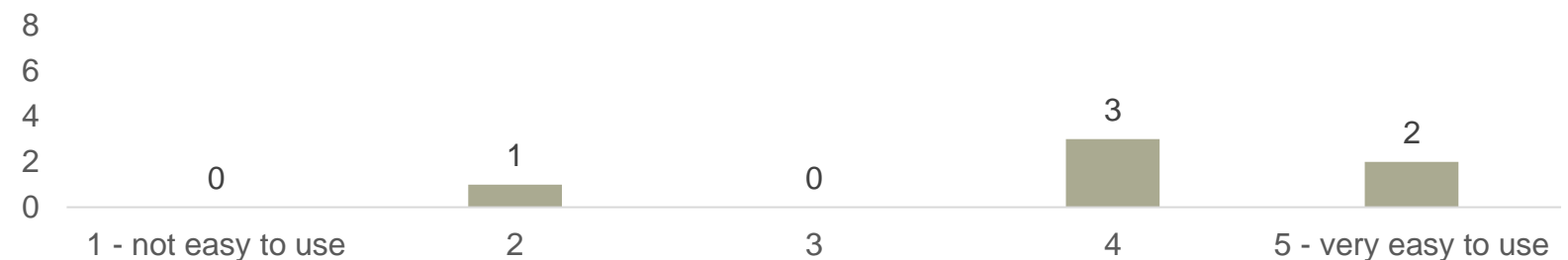
How useful did you find the slide deck “Use Cases (Advanced)”?



How comprehensive did you find the slide deck “Use Cases (Advanced)”?

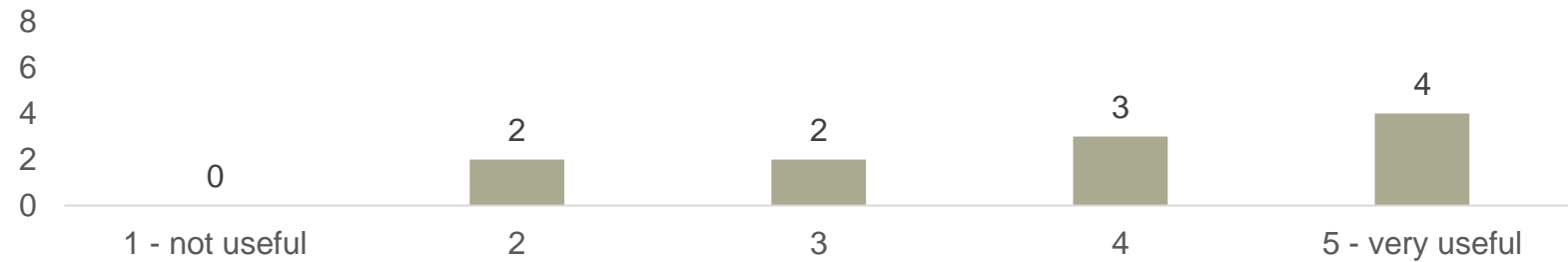


How easy to use did you find the slide deck “Use Cases (Advanced)”?



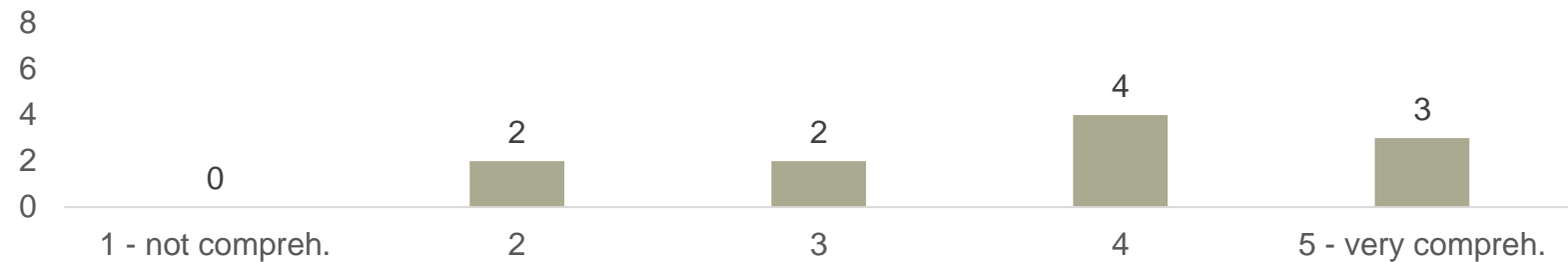
Feedback for the slide deck “Best Practices”

How useful did you find the slide deck “Best Practices”?

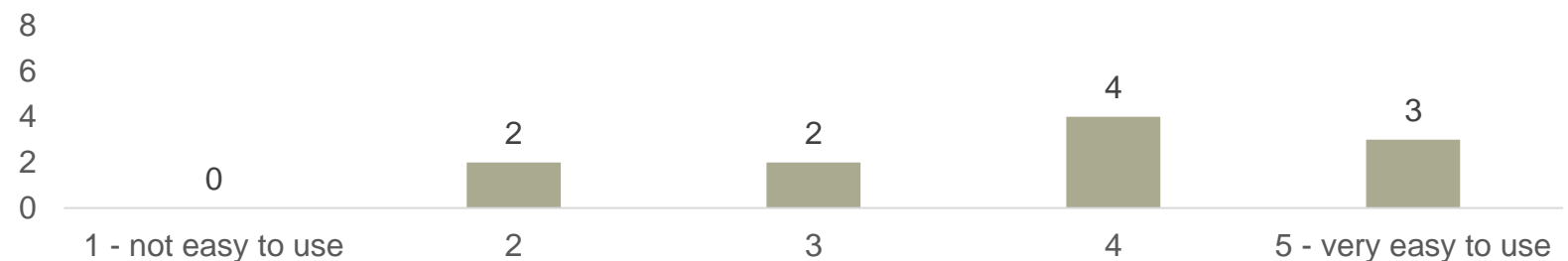


n=11

How comprehensive did you find the slide deck “Best Practices”?



How easy to use did you find the slide deck “Best Practices”?



Student feedback about the OER learning material (1)

Open questions	What was good?	What can be improved?
1. Course structure	<ul style="list-style-type: none"> • Straightforward and informative • Good introduction / orientation • Intl. perspectives, meeting times and general order • Well-founded overview 	<ul style="list-style-type: none"> • Overall organisation and clarity of tasks • Add a goal discussion at the beginning • Uneven workload, no clear objectives • Course structure was disorganized
2. Introduction to Data Science	<ul style="list-style-type: none"> • Brief and well to read • Clear structure and good introduction • Good visualisations • Good introduction for ppl. without prior knowledge • Good amount of definitions and data from examples 	<ul style="list-style-type: none"> • Add more illustrations to the text to make the slides easier to read • Add more examples for Big Data • Add recommended resources • Less information about Big Data and more information about Data Science • Maybe spend less overall time on this • Good for general understanding but not interesting for ppl. with prior knowledge • Add info on the project role of students

Student feedback about the OER learning material (2)

Open questions	What was good?	What can be improved?
3. Data Science for Social Good	<ul style="list-style-type: none"> • Simple structure • Good differentiation between DSSG and this initiative • Short and compact overview 	<ul style="list-style-type: none"> • Needs to be more concise • Add video for better visualization
4. Data for Good Initiative Analysis	<ul style="list-style-type: none"> • Appealing illustrations • Good analytic approach • Very useful comparisons 	<ul style="list-style-type: none"> • Needs to be more concise • Mostly interesting for experts • Add analysis of specific organisations
5. Use Cases	<ul style="list-style-type: none"> • Information on project impacts • Very interesting and compelling • Good amount of use cases and code examples • This is the best chapter b/c it illustrates topic data sciences • Good selection of use cases 	<ul style="list-style-type: none"> • The explanation of the source code should be given in additional videos • Could be different for different groups • Add photos to illustrate the use cases • Adjust info about code to target groups • More explanation of Paris map solution

Student feedback about the OER learning material (3)

Open questions	What was good?	What can be improved?
6. Best Practices	<ul style="list-style-type: none"> • Very informative and complete • Good for a quick understanding • Varied slides with text, graphics and tables/data 	<ul style="list-style-type: none"> • Some slides contain too much text • Restructure the Data Maturity Matrix • Confusing structure, too many topics
7. Conclusion	<ul style="list-style-type: none"> • Very good summary 	
8. Presentations (in general)	<ul style="list-style-type: none"> • Shortness of chapters • Very detailed information • Well designed presentations • Very consistent presentations • Colour highlighting of individual texts helps with understanding • Authentic and informative • Comprehensible sources • Thematically helpful 	<ul style="list-style-type: none"> • Videos are too long • Needs to be fine-tuned • Too much texts on the slides • An appendix would be useful • Remove background from logos • Some of the graphics are unclear • Different slides for different groups • Make slides more visually appealing • The topics lack logical progression

Student feedback about the OER learning material (4)

Open questions	What was good?	What can be improved?
9. Practical applications	<ul style="list-style-type: none">• A free and useful resource• The tasks were well aligned with the presentation• Great to begin understanding• Logical and compact approach	<ul style="list-style-type: none">• EPSILON should be better promoted• Remixing groups for wider perspective
10. Additional feedback	<ul style="list-style-type: none">• Well done and useful	<ul style="list-style-type: none">• Having only slides is rather boring, interactive elements should be used• Adjust slides better to target groups• General organisation could be better• The questionnaire is too detailed• Having a detailed script for the slides / videos would be good

**Evaluation of participant feedback on OER material
gathered during project EPSILON @ Harz University**

Feedback for the Teaching and Training Material from experts in Data Science and Statistics



**Co-funded by
the European Union**

Open feedback from the experts / lecturers (1)

Structure of the learning material

- Comprehensive approach
- Focus on real-world applications
- Division by skill level helps accessibility
- Material is useful to get a clear picture of the knowledge required for each module
- Content is structured in a clear and logical manner, with each module focusing on a specific aspect of Data Science for Good
- Effectively covers foundational concepts, real-world applications and best practices in DSSG
- Caters to technical and non-technical audiences

Open feedback from the experts / lecturers (2)

Introduction to Data Science

- Clear and concise slides, easy to follow
- Greater emphasis on ethical questions would be advisable (concerning the student background)
- Material should mention typical Data Science pipelines used for modelling problems (e.g. CRISP DM)
- Thoughtful starting point for understanding the technical and ethical dimensions of Data Science
- Highlights importance of responsible science
- Encourages critical thinking about the projects
- Minor enhancements in depth would be good

Open feedback from the experts / lecturers (3)

Data Science for Good

- A bit superficial, could be combined with chapter 3 (analysis of DSSG initiatives)
- Document is easy to follow for learners
- Material could benefit from a dedicated section on ethical concerns and/or biases in datasets (e.g. gender bias in LLM) and responsible AI
- Terms are clearly defined, making it easy for learners to grasp the concepts conveyed
- More graphical elements would be good
- Could benefit from more detailed examples
- Emphasizes the transformational potential of data analytics in solving real-world problems
- Interesting look at origins of DSSG movement

Open feedback from the experts / lecturers (4)

Analysis of Data for Good initiatives

- Key performance indicators should contain more quantitative information about impact
- Well-researched list of DSSG initiatives
- Key indicators allow meaningful comparisons
- Addressing common challenges faced by the initiatives would provide a more balanced view
- Valuable resource for anyone interested in joining or founding a DSSG initiative, gives interesting insights into such organizations
- Slides cover a wide range of dimensions, ensuring a holistic analysis of DSSG orgs
- Slides have some storytelling potential
- Valuable analysis of DSSG initiatives

Open feedback from the experts / lecturers (5)

Selected use cases (beginner)

- Coding examples are good but should only be presented in such great detail, if the students are expected to perform these exercises
- Threshold to performing such an exercise without help is quite high for students from a non-technical/non-scientific background
- Project impact could be better elaborated
- Topics are highly relevant and demonstrate the application of DSSG in real-world scenarios
- Good use case not only for Data Science but also for web scraping (transparency, accessibility)

Open feedback from the experts / lecturers (6)

Selected use cases (advanced)

- The code-walkthroughs, although useful for beginners, focuses on technical details, while the focus would better be suited for best practices in Data Science / decision making
- The „most useful slide deck“ in the collection
- Could code examples be more useful in R?
- Additional visuals would be beneficial
- Easy to navigate with good structure
- Data processing methods are clearly explained
- Well-chosen example for a good DSSG project

Open feedback from the experts / lecturers (7)

Best Practices

- Unclear: Who is going to care about the data / analysis and where will data be stored?
- Concrete, actionable frameworks for implementing DSSG projects
- Material does an excellent job of describing organizational structures (CorrelAid, DSSG)
- Material could benefit from more emphasis on measuring project impact and success metrics
- The section on project handover could be expanded to address common challenges in transitioning projects from volunteer teams to partner organizations (critical point of failure)
- Provides insight into many relevant parameters for setting up a DSSG project or organization
- Underscores the potential use of frameworks for helping DSSG orgs to adopt best practices

Open feedback from the experts / lecturers (8)

Conclusions / Summary

- Easy to read, logical flow from overview to specific examples to future outlook
- "Future Challenges and Trends" section could include more specific emerging technologies and methodologies (e.g. impact of LLMs on nonprofits, problematic biases in LLMs)
- It is good, that the material concludes with a clear-cut, strong call to action
- Outlines of key goals for every target group
- Effectively encapsulates the key takeaways of the EPSILON OER presentations
- Useful for inspiring and engaging students, data enthusiasts and NGOs to undertake projects

**Evaluation of participant feedback on OER material
gathered during project EPSILON @ Harz University**

**What did we learn from the OER
evaluation overall? Combining the
feedback from students and experts**



**Co-funded by
the European Union**

What did we learn from the OER evaluation overall? (1)



General Feedback



Slide Deck Evaluations



**Expert and
Lecturer Feedback**



**Suggestions for
Improvement**

What did we learn from the OER evaluation overall? (2)

- The materials were generally well-received, with most slide decks rated as useful, comprehensive, and easy to use.
- Students appreciated the structured introduction and real-world relevance but suggested improvements in illustrations, interactive elements, and also content tailoring to different experience levels.
- Lecturers highlighted the well-organized content but suggested adding more focus on ethical concerns, responsible AI, and project impact measurement.

- Introduction to Data Science: Rated positively for clarity and accessibility but needed more illustrations and resources.
- Data Science for Social Good: Well-structured but required more concise content and additional visual elements.
- Data for Good Initiatives: Valued for its analytical approach but was seen as more relevant for experts.
- Use Cases (Beginner & Advanced): The most appreciated section due to its practical approach; however, some coding examples needed better alignment with audience skill levels.
- Best Practices: Provided a solid overview but needed better structure and emphasis on data governance.

- The materials provided a strong conceptual foundation but needed more discussion on ethical considerations, data biases, and responsible AI.
- Advanced topics, such as project impact and sustainability, could be expanded.
- The "Use Cases" section was highlighted as the most valuable but should focus more on best practices rather than just technical details.

- Incorporate more graphics and more interactive elements, such as videos and exercises.
- Ensure all slide decks provided cater to different audience levels (beginners vs. advanced learners).
- Improve structuring of certain sections, particularly "Best Practices" and "Use Cases".
- Expand ethical discussions and introduce more practical project success metrics.

**Evaluation of participant feedback on OER material
gathered during project EPSILON @ Harz University**

**Feedback for the Multiplier Event on
December 18th 2024 in Magdeburg**



**Co-funded by
the European Union**

Feedback for the Multiplier Event on December 18th 2024 (1)

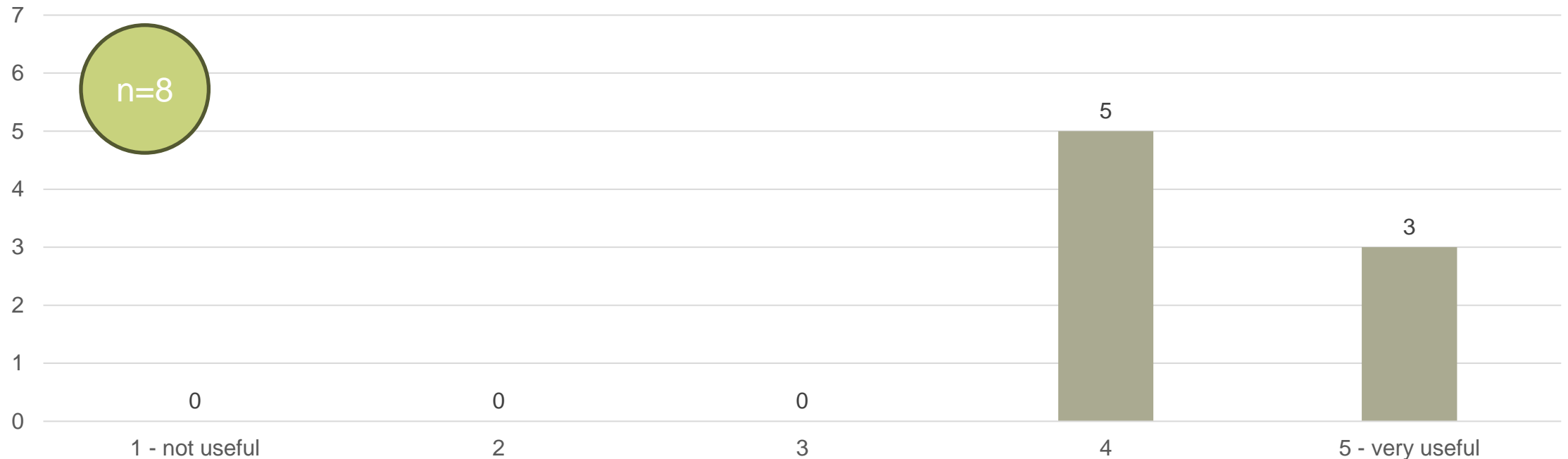


Aerial view of Magdeburg-Stendal University by user Husky 22, Wikimedia, CC BY-SA 4.0

- The final Multiplier Event for EPSILON was held on December 18th 2024 at Magdeburg-Stendal University of Applied Sciences
- 13 on-site participants
- 8 filled out the questionnaire (~62%)
- 18 online participants (not surveyed)
- The questionnaire consisted of five closed and eight open questions

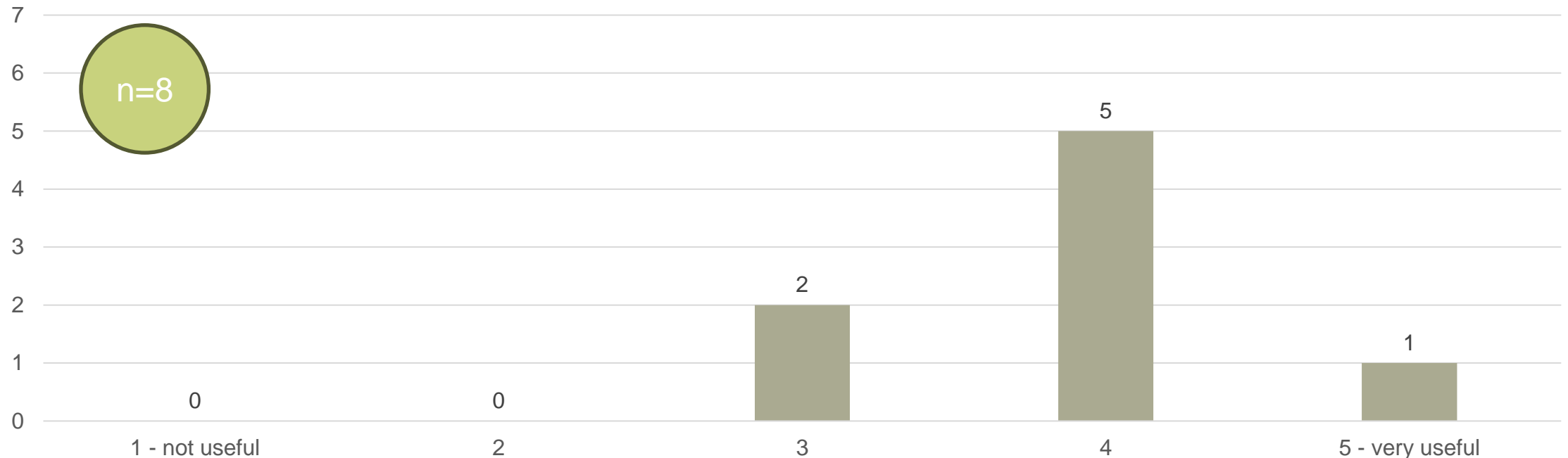
Feedback for the Multiplier Event on December 18th 2024 (2)

How useful and comprehensible did you find the following project results?
Project Result 1: European Data for Good Needs Analysis



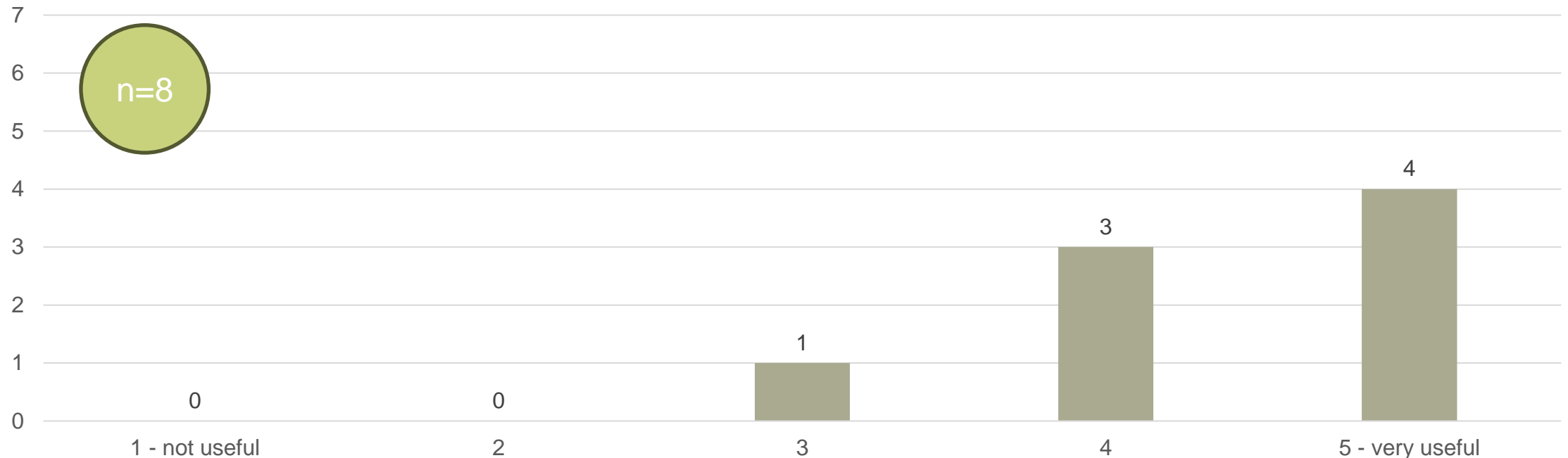
Feedback for the Multiplier Event on December 18th 2024 (3)

How useful and comprehensible did you find the following project results?
Project Result 2: Knowledge Platform and Business Intelligence Toolkit



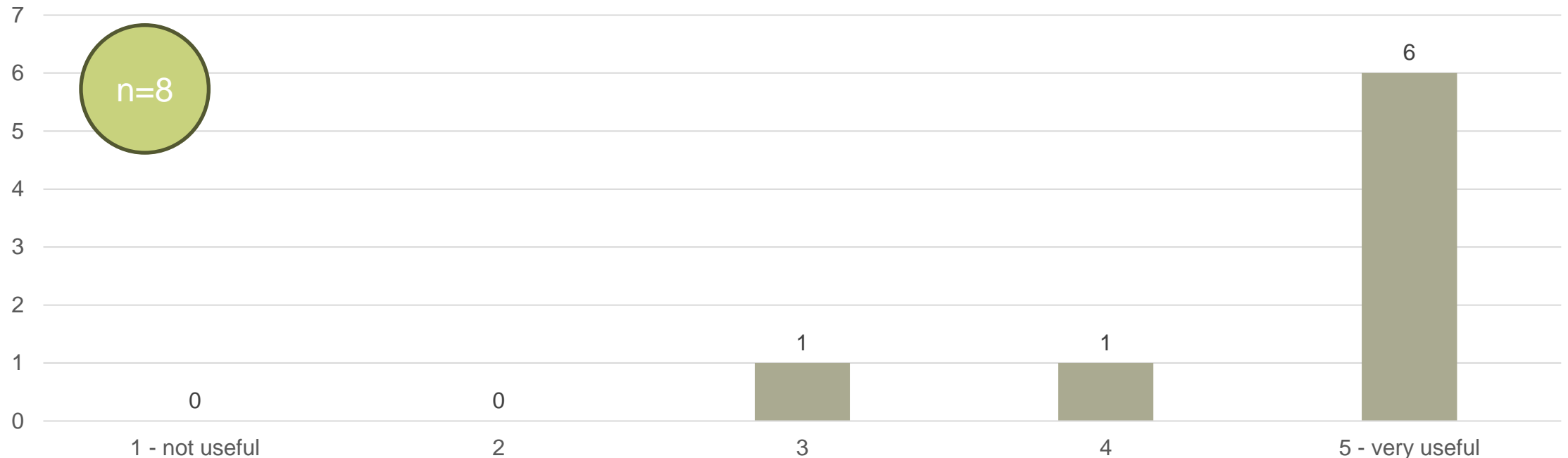
Feedback for the Multiplier Event on December 18th 2024 (4)

How useful and comprehensible did you find the following project results?
Project Result 3: New Data for Good Initiative in Lithuania



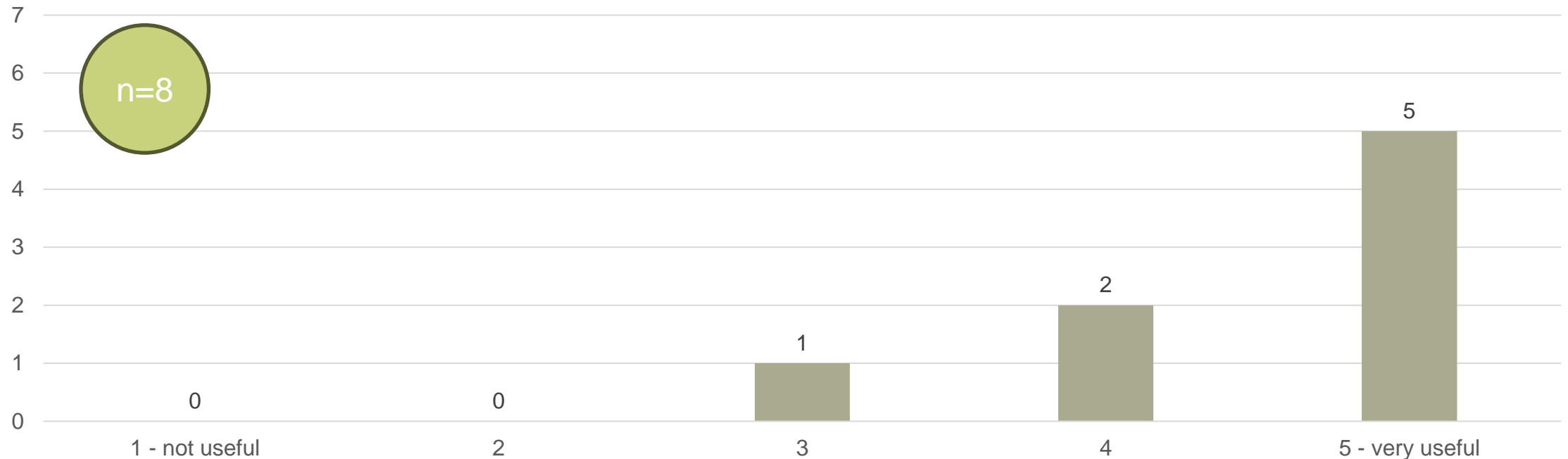
Feedback for the Multiplier Event on December 18th 2024 (5)

How useful and comprehensible did you find the following project results?
Project Result 4: Teaching and Training Material



Feedback for the Multiplier Event on December 18th 2024 (6)

How useful and comprehensible did you find the information provided by the **keynote speaker**?



Feedback for the Multiplier Event on December 18th 2024 (7)

Open questions	What was good?	What can be improved?
1. Content of the info and networking event	<ul style="list-style-type: none"> • Potentially highly useful OER • Good insights into research • Very informative and relevant • Brought up new ideas useful for participant's work • Broad topics 	<ul style="list-style-type: none"> • Problems with presentation technology • More information on project content and less on project history
2. Structure and format of the event	<ul style="list-style-type: none"> • Hybrid format was good 	<ul style="list-style-type: none"> • More on-site presentations • Technical problems
3. Networking session	<ul style="list-style-type: none"> • Useful to get into details • Very well organized • Interesting contacts • Very productive 	
4. Discussion	<ul style="list-style-type: none"> • Good moderation 	

Feedback for the Multiplier Event on December 18th 2024 (8)

Summary

- More than half (~62%) of the on-site participants took part in the survey
- All project results as well as the keynote speech were positively evaluated
- The best received project result was PR 4: Teaching and Training Material
- Even though the hybrid format was positively assessed, several participants expressed the wish to have heard more on-site presentations
- Overall, participants found the event valuable, with strong feedback on content quality, networking opportunities, and relevance to their work
- Areas for improvement included technical issues and content focus

**Evaluation of participant feedback on OER material
gathered during project EPSILON @ Harz University**

Overview of data on participants in the two LTTAs in Portugal and Germany



**Co-funded by
the European Union**

Who participated in the two international LTTAs?

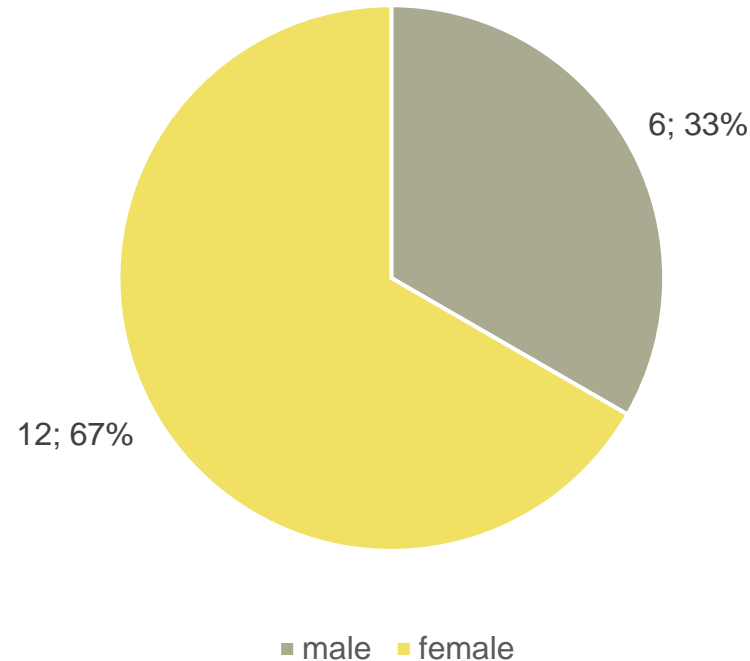


Participants at the EPSILON Training for International Students on September 24th 2024

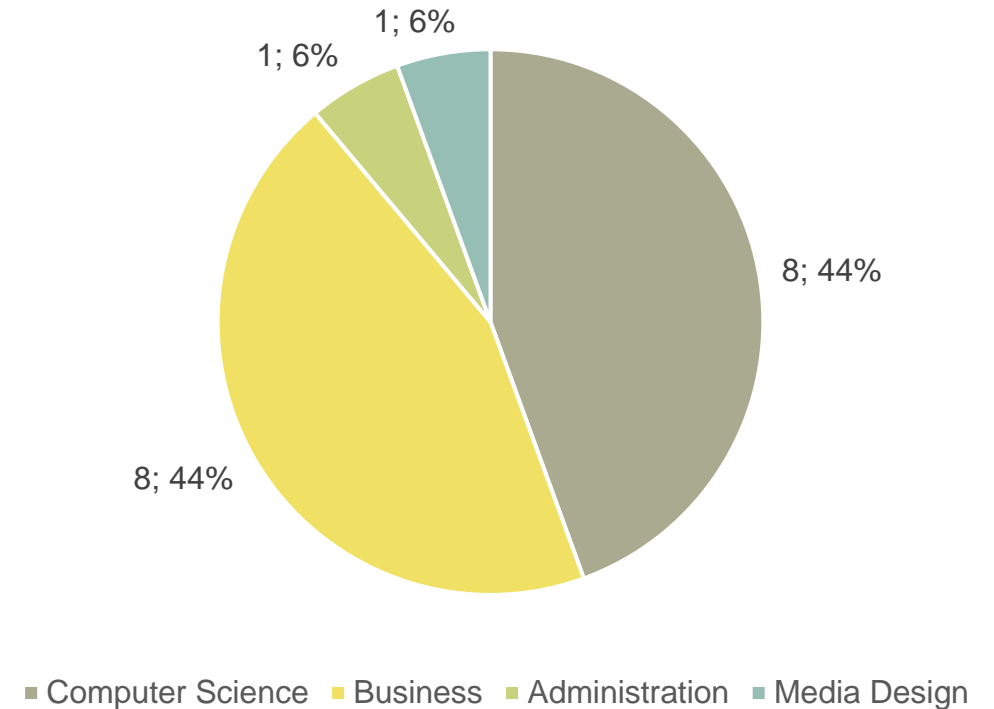
- Project EPSILON held two in-person, multi-day Learning, Teaching and Training Activities (LTTA)
- LTTA1 was held from November 14th to November 16th of 2023 at the NOVA SBE Data Science Knowledge Center at Carcavelos, Portugal
- LTTA2 was held from September 24th to September 26th 2024 at Harz University in Wernigerode, Germany

Gender and academic background of the LTTA participants

Gender (no. of participants)



Academic background



Major participant motivations given in the application letters

Preparing for a future role in DSSG

General Interest

Learning more about Data Science

Networking with the DSSG Community

Career Development

Learning more about Software Engineering

More information about EPSILON can be found online



Hashtag #epsilonproject auf www.linkedin.com



<https://www.youtube.com/@epsilonproject2025>

<https://www.hs-harz.de/forschung/ausgewaehlte-forschungsprojekte/epsilon>

Prof. Dr. Philipp David Schaller

Phone +49 3943 – 297

Email pschaller@hs-harz.de

Friedrichstrasse 57 – 59

38855 Wernigerode

Germany

Christian Reinboth

Phone +49 3943 – 896

Email creinboth@hs-harz.de

Friedrichstrasse 57 – 59

38855 Wernigerode

Germany

With thanks to: Prof. Dr. Theo Berger

Suntje Ehmann

Grit Lehmann

Stefan Apitz

Ellen Rabe



**Co-funded by
the European Union**