ECONSTOR Make Your Publications Visible.

A Service of

ZBW

Leibniz-Informationszentrum Wirtschaft Leibniz Information Centre for Economics

Platje, Joost; Palak, Rafał; Wojtkiewicz, Krystian

Article

Sokrates Forms: A research instrument for creating social impact of science on the example of system risk management

The Central European Review of Economics and Management (CEREM)

Provided in Cooperation with: WSB Merito University in Wrocław

Suggested Citation: Platje, Joost; Palak, Rafał; Wojtkiewicz, Krystian (2025) : Sokrates Forms: A research instrument for creating social impact of science on the example of system risk management, The Central European Review of Economics and Management (CEREM), ISSN 2544-0365, WSB Merito University in Wroclaw, Wroclaw, Vol. 9, Iss. 1, pp. 47-62, https://doi.org/10.29015/cerem.1027

This Version is available at: https://hdl.handle.net/10419/318369

Standard-Nutzungsbedingungen:

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

Terms of use:

Documents in EconStor may be saved and copied for your personal and scholarly purposes.

You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.

If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.



ND https://creativecommons.org/licenses/by-nc-nd/4.0/





ISSN 2543-9472; eISSN 2544-0365

Vol. 9, No. 1, March 2025, 47-62



www.cerem-review.eu www.ojs.wsb.wroclaw.pl

Sokrates Forms – a research instrument for creating social impact of science on the example of system risk management

Johannes (Joost) PLATJE, WSB Merito University in Wrocław, Poland, Research Centre for System Risk Management

Rafał PALAK, Krystian WOJTKIEWICZ, Wrocław University of Science and Technology, Poland

Received: 10.03.2025, Revised: 28.03.2025, Accepted: 30.03.2025 doi: http://10.29015/cerem.1027

Abstract:

Aim: This paper introduces Sokrates Forms, an innovative survey instrument with advanced functionalities that enhance data accuracy, respondent engagement, and compliance with data protection regulations. The primary objective is to develop and implement a dynamic, secure, and customizable survey tool that supports both cross-sectional and longitudinal studies while offering a feedback mechanism to participants.

Design / **Research methods:** The study presents the architecture, methodology, and implementation of Sokrates Forms, highlighting its modular and scalable design. The tool integrates adaptive survey paths, rigorous data validation protocols, and a personalized feedback system, which not only improves response quality but also fosters user engagement. Anonymization features ensure compliance with data protection standards, allowing surveys to be conducted either anonymously or through login-based participation for repeated studies. A case study on assessing organizational vulnerabilities in the context of system risk management demonstrates the tool's application in real-world research scenarios.

Keywords: data collection, social impact of science, system risk, Pareto Principle, functional stupidity, black swans

JEL: C81, D63, D81, D84

Contact details: Rafał PALAK, Wrocław University of Science and Technology, Wybrzeże Wyspiańskiego 27, 50-370 Wrocław, Poland. E-mail: <u>rafal.palak@pwr.edu.pl</u>.

1. Introduction

When conducting surveys, the respondent, in general, does not receive direct feedback. Direct feedback is rather a feature of, for example, existing instruments on political preferences or psychometric characteristics, widely used in psychological practice (e.g., Allen 2022). However, the social researcher does not have cheap access to a survey instrument with a feedback function creating, for example, a risk profile for the user. When using applications for examinations, like in Moodle, Google docs or MS Forms, the respondent can receive feedback on individual questions. But this is rather unavailable for every individual answer, with for example multiple choice questions. Therefore, the authors decided to create Sokrates Forms, in the framework of the Research Centre for System Risk Management, aimed at collecting surveys and provided the respondent with aggregated feedback as well as feedback to individual questions.

These functions, besides being useful for the user in educational settings, of in business consulting, can also be advantageous for collecting surveys. The promised feedback provides a benefit for the respondent, which may increase the willingness to fill out the survey. Feedback may consist of text, but also links to websites, articles, films, and other materials. While the survey can be carried out with a commonly accessible link, it is also possible for the user to create an account, which remains anonymous for the administrator. This fulfills the General Data Protection Regulation (GDPR) and allows for carrying out research surveys over time. This, of course, creates methodological challenges when combined to the feedback function. But also opportunities, when, for example, the feedback function is used for a teaching intervention.

This study explores the design, methodology, and implementation of Sokrates Forms, emphasizing its modular and scalable architecture. The platform incorporates adaptive survey pathways, robust data validation mechanisms, and an interactive feedback system to enhance both response quality and participant engagement. To uphold data protection standards, Sokrates Forms includes advanced anonymization features, enabling surveys to be conducted either anonymously or through secure login-based participation for longitudinal studies. After a discussion of respondent-

level challenges and tool design, the practical application of this tool is illustrated through a case study focused on assessing organizational vulnerabilities in the context of system risk management.

2. Respondent-level challenges

While Sokrates Forms is a broadly applicable survey collection instrument, it has been specifically developed to assess users' preparedness for system risks embedded within their individual goals. Beyond this primary function, its applications extend as far as researchers and practitioners can envision, allowing for customization to suit diverse research needs.

The growing reliance on digital surveys in scientific research has highlighted the limitations of conventional survey platforms, particularly in addressing issues such as data quality, participant engagement, and methodological rigor (Groves 2006, Robbins 1999). Traditional survey tools often struggle with mitigating common biases, ensuring data integrity, and adapting to the dynamic nature of research questions (Elston 2021). In response to these challenges, Sokrates Forms introduces an innovative approach, integrating advanced functionalities to enhance the accuracy, reliability, and interactivity of survey-based research.

Lack of respondent engagement presents a significant challenge. Excessively long surveys, complex question structures, and the absence of respondent incentives contribute to survey fatigue, increasing the likelihood of superficial or incomplete responses. Ochoa (2023) points out that the most important factors influencing the decision were the reward level and the survey length. This suggests that participants place greater importance on the benefits they receive rather than on potential inconveniences, such as limited time to complete the survey or the risk of disrupting their current activity. Kunz (2024) demonstrates that a high level of burden significantly affects response quality. For example, it leads to more missing responses, a higher number of incorrect answers in knowledge questions, increased straight lining, failures in attention checks, and faster response times. They also note that, from a practical standpoint, the respondents' perception of the burden is more critical than the actual length of the survey. To address these concerns, Sokrates Forms

incorporates a dynamic feedback mechanism, which not only improves respondent motivation but also enhances the quality of the collected data.

A unique feature of Sokrates Forms is its capability to allow respondents to create an account without compromising anonymity. Through a unique identifier system, researchers can track responses over time without accessing personally identifiable information. This feature facilitates the distribution of survey questions across an extended period, making the tool particularly suitable for experimental research, longitudinal studies, and focus group analysis (Audette 2020). For instance, researchers studying student motivation over several academic years or employee knowledge retention in corporate training programs can leverage this system to ensure continuity and data integrity.

3. Tool design

This section outlines the structural and functional principles guiding the development of Sokrates Forms, emphasizing its modular design, integration of personalized analysis, data protection compliance, and user-centred adaptability.

3.1 Core design principles

The architecture of Sokrates Forms is built on fundamental principles that ensure its effectiveness, flexibility, and longevity. Modularity allows for independent development and maintenance of different components, facilitating seamless updates and feature enhancements.

Scalability is another key consideration, enabling the tool to handle diverse survey sizes and accommodate large volumes of respondents without performance degradation. This ensures that the platform remains effective for both small-scale studies and extensive research projects requiring high data throughput.

Additionally, Sokrates Forms is designed with flexibility in mind. It supports a wide array of survey types and methodologies, allowing researchers to tailor surveys to their specific requirements. This versatility makes it a valuable tool across multiple disciplines, including social sciences, psychology, disaster management, and market research.

3.2 Personalized analysis integration

To optimize data collection, Sokrates Forms integrates real-time adaptive algorithms that dynamically adjust survey paths based on respondents' inputs. This feature ensures that questions remain relevant to individual participants, reducing redundancy and increasing engagement. By tailoring the sequence of survey items, researchers can obtain more nuanced data, leading to richer and more precise analyses.

3.3 Anonymization compliance

Ensuring compliance with data protection regulations is a critical priority in the design of Sokrates Forms. The platform aligns with key frameworks such as the General Data Protection Regulation (GDPR), integrating advanced anonymization techniques to safeguard respondent privacy (Voight, von dem Bussche 2024).

Practical implementations of these compliance measures include secure data handling protocols, irreversible hashing techniques, and user-friendly consent management systems. These safeguards ensure that researchers can collect valuable longitudinal data while maintaining strict ethical and legal standards.

3.4 User-friendly and adaptable interface

Sokrates Forms prioritizes accessibility and usability across a wide range of devices, from mobile phones and tablets to desktop computers. Its responsive interface allows for intuitive navigation and customization, ensuring a seamless experience for both researchers and participants.

The tool also provides extensive customization options, enabling researchers to modify survey layouts, select diverse question types, and apply logic-based conditions to survey flows. These features enhance the adaptability of the platform, making it suitable for various research contexts and analytical needs.

3.5 Innovative feedback mechanism

A key innovation within Sokrates Forms is its dynamic feedback system. After respondents complete a survey, their answers are aggregated according to the assigned metrics, and personalized feedback is generated based on pre-defined value ranges (see Table 1 at the end of the article for an example). This process not only enhances the survey's analytical depth but also incentivizes users to engage more thoughtfully with the questions if informed about the feedback in advance. By providing tailored insights, respondents receive immediate value from their participation, setting Sokrates Forms apart from traditional survey tools.

3.6 Data validation and survey integrity

To ensure high-quality data collection, Sokrates Forms implements a comprehensive set of validation protocols that safeguard the integrity of survey responses throughout the creation and execution process.

- Unique identifiers: each survey element, including question IDs and metric names, is assigned a distinct identifier to prevent conflicts and ensure seamless data organization.
- Consistency verification: automated validation processes systematically assess data structures, cross-referencing survey components to detect discrepancies, missing fields, or format inconsistencies.
- Error prevention: by identifying and resolving data inconsistencies at the input stage, Sokrates Forms minimizes post-survey data cleaning efforts, thereby enhancing the accuracy and reliability of collected responses.

3.7 Multimedia integration and adaptive display

Recognizing the impact of visual elements on engagement and comprehension, Sokrates Forms facilitates seamless multimedia integration and dynamic question presentation.

• Embedded media support: researchers can incorporate images or videos via direct URLs, with built-in format recognition ensuring proper display. This feature enhances question clarity and enriches respondent interaction.

• Conditional logic for question flow: The platform supports logic-based display conditions that dynamically adjust question visibility based on prior responses. Researchers can implement both simple and compound conditions (AND, OR, NOT operators), enabling a tailored survey experience that improves participant engagement and data relevance.

3.8 Customizable consent management

Transparency and ethical compliance are central to Sokrates Forms, which provides researchers with the flexibility to design custom consent agreements.

- Explicit research scope disclosure: the consent interface allows survey creators to clearly outline the purpose, methodology, and data-handling procedures.
- Mandatory agreement mechanism: participants must actively acknowledge the terms before proceeding, ensuring informed consent and adherence to ethical research standards.

By integrating customizable consent options, Sokrates Forms enhances participant trust while reinforcing compliance with data protection regulations.

3.9 Mitigating bias with multiple survey versions

To minimize potential biases, Sokrates Forms enables the creation of multiple versions of a survey.

- Diverse survey configurations: researchers can design and distribute multiple variations of a survey, ensuring robust methodological control.
- Automated version assignment: the platform randomly assigns a specific version to each respondent, maintaining balance in distribution.
- Independent data aggregation: response patterns across different versions are analysed separately, allowing researchers to assess potential biases introduced by question sequencing or wording.

This functionality strengthens the validity of survey-based research by ensuring that insights are derived from a balanced and methodologically sound dataset.

3.10 Enhanced privacy and anonymization measures

Privacy protection is a foundational principle of Sokrates Forms, ensuring that respondent identities remain secure while maintaining data usability.

- Flexible anonymity options: researchers can configure surveys for either anonymous participation or login-restricted submissions, allowing for repeated measures without exposing personal identities.
- Irreversible hashing for secure tracking: in cases where participant tracking is required, responses are assigned a one-way encrypted identifier, enabling longitudinal analysis without compromising confidentiality.
- Transparent privacy communication: prior to survey participation, respondents receive clear information about data protection measures, fostering transparency and trust.

Through these advanced anonymization features, Sokrates Forms provides a secure and ethically responsible survey environment, balancing rigorous research requirements with robust privacy safeguards.

By combining these functionalities, Sokrates Forms empowers researchers to design sophisticated, high-integrity surveys that not only enhance data quality but also stimulate participant engagement and trust, ensuring compliance with the highest ethical and methodological standards.

3.11 Comparison to other tools

The assessment of the differences with other tools is the topic for future in-depth research. We present here the innovative features of Sokrates Forms that make it an attractive tool compared to current low cost tools such as Google Forms and Microsoft Forms.

Unlike the cheaper traditional platforms, where respondents receive only a standard confirmation upon submission and eventually feedback on individual questions, Sokrates Forms introduces a dynamic feedback mechanism. This means that at the end of a survey, the user can receive a personalized analysis, such as a risk profile, which not only makes the survey experience more engaging but also increases motivation to provide complete and thoughtful answers. While this function exists in

instruments for, e.g., psychometric research, Sokrates Forms makes it available at a low cost.

Like other survey tools, Sokrates Forms uses advanced real-time data validation. It offers basic checks, such as verifying email address format, and automatically detects inconsistencies or errors during data entry, eliminating the need for later corrections. This functionality improves the overall quality of the collected data and shortens the time required for analysis.

Privacy protection is another area distinguishing Sokrates Forms. While most popular tools only offer anonymous form submissions, Sokrates Forms implements advanced data protection mechanisms. By using unique identifiers and one-way hashing techniques, it enables longitudinal studies without compromising participant anonymity. This solution is particularly valuable for research requiring the tracking of changes over time while maintaining full confidentiality.

The modular architecture of Sokrates Forms allows for easy scalability and adaptation to various project types, from small academic studies to extensive longitudinal research, and provides high flexibility and quick adaptability in survey design.

4. Case Study: enhancing the social impact of science through feedback mechanisms in risk assessment

4.1 Development of the questionnaire: theoretical foundations and empirical refinement

4.1.1. Theoretical foundations: The Pareto Principle, functional stupidity and black swans

Early Warning Systems (EWS) play a crucial role in disaster management and security planning by providing timely alerts about potential hazards (Khankeh 2019). However, empirical studies suggest that despite the existence of EWS, stakeholders frequently ignore or downplay warnings, leading to inadequate risk preparedness (Taleb 2007, 2012; Wucker 2016). A key challenge in risk governance is understanding the vulnerabilities of individuals, organizations, and regions, as well as

identifying the cognitive biases and structural barriers that prevent effective response to warnings (Taleb 2012; Kahneman 2011).

To address these challenges, Sokrates Forms has been developed as an interactive web-based instrument designed to assess system risk perception and provide personalized feedback to stakeholders. By collecting and analysing the perceptions of local stakeholders, the tool enables the identification of patterns in risk awareness and response behaviour. The integration of statistical evaluation mechanisms allows for the construction of robust models that inform policy decisions and improve overall risk preparedness.

This case study demonstrates how Sokrates Forms serves as a dynamic research tool that not only facilitates stakeholder assessments but also enhances public engagement through its interactive feedback features. By offering individualized insights and tailored recommendations, the tool strengthens the social impact of scientific research, transforming risk perception studies into actionable knowledge that benefits both policymakers and at-risk communities.

The development of the questionnaire is grounded in three key theoretical frameworks: the Pareto Principle, Alvesson and Spicer's concept of Functional Stupidity, and Nassim Taleb's Black Swan theory. The Pareto Principle, or the 80/20 rule, suggests that in many systems, a small proportion of causes or inputs accounts for a disproportionately large share of effects or outcomes (See Taleb 2012). Applied to risk perception and preparedness, this principle implies that a small number of critical vulnerabilities or cognitive biases may exert an outsized influence on an organization's overall resilience.

Alvesson and Spicer's (2012) concept of Functional Stupidity highlights the tendency of individuals and organizations to avoid critical thinking, reflexivity, and uncomfortable truths, often in the pursuit of short term profit goals, efficiency, and group cohesion. This avoidance can lead to systematic negligence of early warning signs, dismissal of alternative viewpoints, and resistance to acknowledging systemic risks. As a result, organizations may create environments that foster complacency, discourage dissent, and fail to prepare for potential disruptions. The questionnaire incorporates this perspective to assess the extent to which respondents exhibit risk-

blindness, unquestioned adherence to organizational norms, and an inability to recognize or act on systemic vulnerabilities.

Incorporating Nassim Taleb's (2007) Black Swan theory further strengthens the framework by accounting for small-probability, high-impact events that often remain unanticipated due to cognitive biases and overreliance on historical patterns. Taleb argues that rare, unpredictable events with extreme consequences, so-called Black Swans, are frequently dismissed or underestimated because they fall outside conventional risk models. Organizations and individuals tend to focus on what is known and quantifiable, ignoring outlier risks that can catastrophically reshape entire systems. This oversight is often exacerbated by Functional Stupidity, where decision-makers resist acknowledging the possibility of disruptive anomalies, preferring instead to operate within familiar paradigms. Furthermore, as suggested by the Pareto Principle, even a small number of overlooked vulnerabilities can significantly amplify the impact of Black Swan events, increasing systemic fragility.

Together, these three theoretical foundations provide a multidimensional lens for understanding why stakeholders fail to recognize and respond to risks effectively. Whether due to structural inefficiencies and concentrated vulnerabilities (Pareto Principle), deliberate ignorance and intellectual inertia (Functional Stupidity), or the inherent unpredictability of extreme events (Black Swan theory), the questionnaire is designed to identify and measure these critical risk perception challenges.

4.1.2 Empirical refinement

Initially, the questionnaire was conceptualized as a broad-ranging assessment tool, consisting of approximately 100 questions aimed at evaluating risk perception and organizational vulnerability. To refine its structure and applicability, a series of empirical validation workshops and field studies were conducted between 2016 and 2018 in Germany and Poland. The first major testing phase took place in 2016 at IHK Magdeburg, where industry professionals and risk management experts assessed the practical relevance and clarity of the questionnaire. In 2018, further studies were carried out at a meeting with business representatives and among a Swiss and a German company (Platje, 2019). This process helped streamline the questionnaire, ensuring its universal applicability across sectors. Concurrently, workshops in

Wrocław (2016–2018) allowed for further refinements, focusing on question clarity, response consistency, and applicability.

In 2024, the questionnaire was integrated into Sokrates Forms. The finally selected 20 survey questions are presented in Table 1. This integration introduced real-time data validation, dynamic survey adaptation, and automated feedback generation, enhancing user engagement, and the tool's overall analytical capacity. Beyond its application in research and risk governance, the questionnaire has also been employed in executive education and academic programs, particularly in a course on Unsustainable Economics, where professionals from business, government, and academia engaged with the tool.

Table 1. Survey questions

The survey questions:

- Please answer the following questions in the context of your company's operations:
- 1. In our organization, we do not discuss mistakes.
- 2. We strive to create a positive atmosphere for finding solutions to emerging problems.
- 3. Things that almost went wrong are discussed, and conclusions are drawn.
- 4. In our company, one can freely challenge/criticize management decisions/ideas.
- 5. Changes in rules are openly discussed in our company.
- 6. Company management often provides reasons and explanations for its decisions.

7. Employees of the company/organization are eager to provide feedback to other involved individuals.

8. Overall, there are too many changes in our company, with too little time to implement and manage them.

- 9. Our company relies on one or a few good employees.
- 10. Our company depends on one or a few good managers.
- 11. Our company ignores threats to its existence that are difficult to quantify.
- 12. Our company ignores unlikely threats.
- 13. Our company is dependent on one or a few suppliers.
- 14. If necessary, our company can easily find new suppliers.
- 15. If necessary, our company can easily find new clients.
- 16. Our company is dependent on one or a few clients.
- 17. Our company is highly innovative.

18. Our company's innovations increase dependence on highly qualified and hard-to-access employees.

- 19. Our company's innovations have made it more dependent on a few suppliers.
- 20. Our company's innovations have made its management more complicated.

Link to survey: https://system-risk-research.org/strengthen-your-company/

4.2 Personalized profiling and benchmarking

To improve risk awareness, individualized risk profiles were generated, based on user responses. Sokrates Forms assigns a score to each question, allowing to aggregate the scores, and to create feedback using benchmarking principles. An example of the simplest form of feedback is presented in Table 2. This feedback is the basis for further in-depth analysis, e.g., through meetings between an expert and the respondent(s). Future functionalities of Sokrates Forms will allow for comparative benchmark analyses, showing how the respondent's profile or perceptions aligns with that of their peers, industry standards, or regional averages. Longitudinal tracking allows users to monitor changes.

4. Conclusion

In conclusion, Sokrates Forms emerges as a highly versatile and robust platform tailored to meet a wide spectrum of survey needs. Its advanced functionalities, ranging from feedback and stringent data validation to the seamless integration of multimedia content, equip users to design and deploy surveys that are both engaging and reliable.

The platform's adaptability is evident in its application across diverse domains. In customer surveys, it enables precise market research and informed product development by offering tailored survey experiences. Its capacity for managing dynamic content and tracking participants over time should ensure the collection of consistent and ethically handled data. Furthermore, in health-related fields, Sokrates Forms may support the collection of critical patient feedback and public health data, thereby contributing to improved treatment outcomes and effective public health strategies.

Overall, Sokrates Forms not only enhances the quality of data collection but also builds trust through its rigorous privacy and validation measures. This comprehensive approach makes it an invaluable tool for both academic research and commercial applications, ensuring that every survey yields actionable insights and contributes to informed decision-making.

Table 2. Survey feedback

Aggregated feedback. The questions had a Likert item scale from 1 to 5. The more points, the less the perceived vulnerability. The total score was calculated an feedback was provided for different score intervals. The feedback was generated with help of ChatGPT 40, in an iterative process of adapting the text. In order to integrate the proper theoretical background in the general feedback. This feedback is a basis for in-depth further discussion within the organization.

High Level of Fragility/Vulnerability: 20-46 points.

Your responses indicate that your organization may be exposed to various threats and weaknesses, such as dependence on key individuals or suppliers, lack of open communication, and ignoring potential threats.

This score means that the company is at a high level of vulnerability, which could lead to significant problems in the event of unexpected events. It is recommended to conduct a thorough analysis of existing risks and take actions to mitigate them.

Your company may be exposed to serious risks that could cause problems in the future. It might be worthwhile to consider steps to minimize risks and strengthen the company's resilience. Think about how to improve openness to change and strengthen communication within the organization.

We recommend analyzing these areas and considering strategies that could strengthen the company. It may be useful to investigate how other companies handle similar challenges and how these practices could be applied within your organization.

Medium Level of Fragility/Vulnerability: 47-73 points.

The results indicate that your organization recognizes some potential weaknesses but does not consider them to be very serious. This balanced approach can be beneficial; however, it may be worth considering if some of these areas could become more problematic in the future. We encourage you to analyze and implement corrective measures to strengthen these weak points and prepare the company for future challenges.

The score suggests the presence of solid foundations, but also areas that may need strengthening. It indicates that the company has certain areas requiring improvement in terms of risk management and sensitivity to change. It would be worthwhile to focus on those aspects that could generate risks and to explore ways to minimize them.

Low Level of Fragility/Vulnerability: 74-100 points.

Your results suggest that your organization is well-prepared for potential threats and weaknesses. This is excellent news! To maintain this advantage, it's beneficial to regularly review and update risk management strategies and continue building a culture of open communication and innovation. We encourage you to share your best practices and continue improving organizational management.

The score indicates that the company has a low level of vulnerability to threats. A welldeveloped organizational culture, open communication, and flexibility in risk management ensure that the company is prepared for unforeseen situations. It's important to maintain these good practices and continue enhancing awareness within the organization.

Your company appears to be well-prepared for various challenges. A conscious organizational culture and openness to change are key assets that are worth nurturing. Keep up the good work and consider what innovations could further increase your company's resilience.

Link to survey: https://system-risk-research.org/strengthen-your-company/

Acknowledgments

This work was supported by the Research Federation WSB-DSW Merito and WSB Merito University in Wrocław.

Bibliography

Alvesson, M., Spicer, A.: A stupidity-based theory or organizations. J. Manage. Stud. 49(7), 1186–1220 (2012). <u>https://doi.org/10.1111/j.467-6486.2012.01072.x</u>

M. S. Allen, D. Iliescu, and S. Greiff, "Single Item Measures in Psychological Science: A Call to Action," European Journal of Psychological Assessment, vol. 38, no. 1, pp. 1–5, Jan. 2022, doi: 10.1027/1015-5759/a000699.

Audette, L.M., Hammond, M.S. and Rochester, N.K., 2020. Methodological issues with coding participants in anonymous psychological longitudinal studies. Educational and Psychological Measurement, 80(1), pp.163-185.

Elston, D.M., 2021. Participation bias, self-selection bias, and response bias. *Journal of the American Academy of Dermatology*.

Groves, R.M., 2006. Nonresponse rates and nonresponse bias in household surveys. *International Journal of Public Opinion Quarterly*, 70(5), pp.646-675.

Kahneman, D.: Thinking, Fast and Slow. Penguin Books, London (2011)

Khankeh, H.R., Hosseini, S.H., Farrokhi, M., Hosseini, M.A. and Amanat, N., 2019. Early warning system models and components in emergency and disaster: a systematic literature review protocol. *Systematic reviews*, *8*, pp.1-4.

Kunz, T. and Gummer, T., 2024. Effects of objective and perceived burden on response quality in web surveys. *International Journal of Social Research Methodology*, pp.1-11.

Ochoa, C. and Revilla, M., 2023. Willingness to participate in in-the-moment surveys triggered by online behaviors. Behavior Research Methods, 55(3), pp.1275-1291.

Platje, J. (2019), The capacity of companies to create an early warning system for unexpected events – an explorative study. In: Nguyen, N.T., Kowalczyk, R.,Mercik, J.,Motylska-Ku'zma, A. (eds.) Transactions on Computational Collective Intelligence XXXIV. LNCS, vol. 11890, pp. 47–62. Springer, Heidelberg. <u>https://doi.org/10.1007/978-3-662-60555-4_4</u>

Robbins, D., 1999. Questionnaire construction. *PUBLIC ADMINISTRATION AND PUBLIC POLICY*, 71, pp.87-98.

Taleb, N.N.: The Black Swan - The Impact of the Highly Improbable. Penguin Books, London (2007)

Taleb, N.N.: Antifragile - Things that Gain from Disorder. Penguin Books, London (2012)

JOHANNES (JOOST) PLATJE, RAFAŁ PALAK, KRYSTIAN WOJTKIEWICZ

Voight, P., von dem Bussche, A. (2024), The EU General Data Protection Regulation (GDPR) A Practical Guide, second edition, Springer Nature, Switzerland.

Wucker, M. (2016). The gray rhino: How to recognize and act on the obvious dangers we ignore. Macmillan.