

# From Big Data to Discovery, Digital Research Methodologies for the Next Generation of Accounting Scholars

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## From Big Data to Discovery, Digital Research Methodologies for the Next Generation of Accounting Scholars

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### ABSTRACT

The rapid development of digital technology has transformed the way research is conducted, particularly in the field of accounting, where accuracy, timeliness, and scalability are crucial. This community service program, organized by the Association of Young Accounting Scholars (ICMA), aimed to enhance participants' competency in digital-based research methods through an international webinar held online via Zoom on January 12, 2023. The webinar introduced digital research concepts, tools, and applications, including online surveys, web scraping, big data analytics, and data visualization. A total of 158 participants, comprising students, young career lecturers, and accounting practitioners, attended the event. The methodology used involved a combination of theoretical presentations, live demonstrations, and interactive discussions, followed by an online feedback survey. Results showed high engagement, with 92% attendance and an overall satisfaction score of 4.74 out of 5. Participants reported increased awareness and practical knowledge, although limited time for hands-on activities was noted as a challenge. The program's implications highlight the importance of integrating digital methods into academic curricula and professional training, promoting ethical research practices, and expanding future community service into multi-day workshops with post-event mentoring. This initiative demonstrates that webinars can effectively build digital research capacity across diverse geographic and academic contexts.

**Keywords:** Digital-Based Research Methods; Accounting Research; Community Service; Webinar; Big Data Analytics; Online Learning

**Fields:** Accounting; Education; Information System; Methodology; Data Analytics

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### INTRODUCTION

The rapid advancement of digital technology has transformed the landscape of research methodology, offering academics and practitioners innovative ways to collect, process, and analyze data. In the accounting field, where accuracy, timeliness, and reliability are paramount, adopting digital-based research methods is no longer an option but a necessity. Digital platforms, big data analytics, and machine learning tools have enabled researchers to access vast data sets, conduct real-time analysis, and generate actionable insights with greater efficiency compared to traditional approaches.

Recognizing the importance of these developments (Nyoto et al., 2023), the Association of Young Accounting Scholars (*Asosiasi Kompetensi Muka Abad ke-21* / ICMA) hosted an international webinar dedicated to the theme of Digital-Based Research Methods. This community service initiative aimed to enhance the research capabilities of young accounting academics and practitioners, equipping them with the skills and knowledge needed to navigate the digital research environment. The webinar brought together experts from academia and industry to share practical applications, tools, and strategies that can be implemented in various accounting research contexts.

The relevance of digital-based research methods is significant in supporting evidence-based decision-making, increasing data transparency, and expanding the reach of research across geographic boundaries. By integrating technologies such as online surveys, web scraping, big data analytics, and cloud-based collaboration platforms, researchers can conduct research that is not only more efficient but also scalable and adaptable to the demands of the digital age. Furthermore, in a post-pandemic context where remote collaboration has become the norm, mastery of digital research tools ensures sustainability and resilience in academic work.

This article documents the community service activities conducted during an international webinar, outlining the theoretical foundations, practical demonstrations, and participant engagement strategies (Renaldi, Junaedi, et al., 2023). It highlights the role of digital-based methods in advancing accounting research and presents recommendations for their effective implementation among young academics.

## LITERATURE REVIEW

### Community Service

Community service is an effort aimed at addressing the existing needs of a community to solve its problems (Nyoto et al., 2024). This service can take the form of physical development, such as improvements in health, education, transportation, and religious sectors (Nyoto et al., 2022). Another type of community service involves providing support to meet the community's needs for problem-solving, also through physical development in areas like health, education, transportation, and religion (Sudarmo et al., 2022).

### Definition and Scope of Digital-Based Research Methods

Digital-based research methods refer to approaches that utilize technological tools, online platforms, and digital infrastructure to collect, process, analyze, and interpret research data (Junaedi, Sudarmo, et al., 2023). Unlike conventional methods, which may rely heavily on face-to-face interactions or manual data processing, digital-based methods enable researchers to leverage automated processes, cloud storage, and advanced analytics. This transformation has been facilitated by developments in big data technology, machine learning, and real-time data collection, making research more efficient and adaptable to diverse contexts (Jahriyal, Junaedi, et al., 2024).

### Key Components of Digital-Based Research

Several core components define the implementation of digital-based research methods:

1. **Digital Data Collection:** Utilizing online surveys (e.g., Google Forms, SurveyMonkey, Typeform), web scraping techniques, and API integration to efficiently collect structured and unstructured data (Renaldi & Fransiska, 2024). This allows researchers to reach respondents across geographic boundaries and collect information in real time.
2. **Digital Data Analysis:** The application of advanced analytical tools such as SPSS, SmartPLS, Python, and R for statistical analysis, predictive modeling, and sentiment analysis. Visualization tools such as Power BI and Tableau facilitate the clear communication of findings to academic and non-academic audiences.
3. **Data Interpretation and Visualization:** Digital visualization dashboards and natural language processing (NLP) tools help translate raw data into meaningful insights, increasing the relevance and applicability of research findings (Biradar & Goudkumar, 2019).

### Advantages of Digital-Based Research in Accounting Studies

In accounting research, digital methods offer many benefits, including:

1. **Efficiency:** Faster data collection and processing significantly reduce research time (Chandra et al., 2024).
2. **Scalability:** The ability to handle large amounts of financial and non-financial data from various sources.
3. **Accessibility:** Researchers can collaborate across locations, facilitating international and interdisciplinary projects.
4. **Innovation:** Opportunities to explore new areas such as blockchain auditing, cryptocurrency market analysis, and AI-based financial forecasting (Renaldi et al., 2024).

### Challenges in Implementing Digital-Based Research

Despite significant benefits, digital research methods present challenges, including:

1. **Data Validity and Reliability:** Online and social media data may be susceptible to bias or manipulation (Suharjo et al., 2024).
2. **Technology Literacy Gap:** Not all researchers have the skills to effectively operate sophisticated analytical tools.

3. **Reliance on Stable Internet Connectivity:** Especially challenging in rural or underdeveloped areas (Ronaldo, 2024).
4. **Data Privacy and Security:** Compliance with data protection regulations such as the GDPR and Indonesia's Data Protection Law is crucial for maintaining trust and legal compliance (Junaedi et al., 2024).

#### **Relevance to Professional Development and Community Engagement**

The adoption of digital research methods aligns with the broader digital transformation in accounting education and practice (Junaedi, Ronaldo, et al., 2023). Through webinars, workshops, and community service programs, young academics and practitioners can develop competencies in data analytics, visualization, and technology integration, enabling them to contribute to evidence-based decision-making in their respective organizations.

## **METHODOLOGY**

### **Community Service Design**

This community service activity is designed as an academic capacity building program aimed at introducing and strengthening the competencies of young accounting academics in the application of digital-based research methods (Wati, Irian, et al., 2024). The program adopts a webinar format to ensure broad accessibility and enable participation from various regions without geographical limitations.

#### **Event Details**

**Event Title:** International Webinar on Digital-Based Research Methods

**Organizer:** Young Accounting Scholars Association

**Date:** January 12, 2025

**Platform:** Zoom Cloud Meetings

**Participants:** 158 individuals consisting of undergraduate and graduate accounting students, young lecturers, researchers, and practitioners from Indonesia and several other countries in Southeast Asia.

#### **Implementation Stages**

##### **a. Preparation Stage**

The preparation stage includes the following activities:

- **Topic Selection:** Determined through internal discussions at ICMA, with a focus on "Digital-Based Research Methods" to address the growing need for digital literacy in research.
- **Speaker and Moderator Selection:** Experienced researchers and digital data analytics practitioners specializing in accounting and finance will be invited.
- **Material Preparation:** Speakers will be asked to prepare presentations covering digital data collection techniques, data analysis tools, data visualization, and case studies relevant to accounting research (Ronaldo, Andi, et al., 2023).
- **Technical Setup:** A Zoom webinar link, registration form, and promotional materials will be created and distributed via email, WhatsApp groups, and ICMA social media platforms.

##### **b. Implementation Phase**

The event consists of three main sessions:

- i. **Opening Session:** Welcome from the ICMA's Chair, speaker introductions, and an overview of the webinar's objectives.
- ii. **Key Presentations:**
  - **Session 1:** Introduction to Digital-Based Research Methods – definition, relevance, and application in accounting.
  - **Session 2:** Tools and Techniques – demonstrations of Google Forms, SurveyMonkey, web scraping with Python, and visualization with Power BI.
  - **Session 3:** Case Study – application of big data analytics in fraud detection and market sentiment analysis in accounting research.

iii. Interactive Q&A and Discussion Session: Participants were encouraged to ask questions in person or via the Zoom chat feature.

#### c. Evaluation Stage

At the end of the webinar, participants completed an online feedback form via Google Forms to assess:

- Relevance and usefulness of the content
- Clarity of the speaker's presentation
- Technical quality of the online delivery

The feedback results were compiled and analyzed to improve future ICMA community service programs.

#### Data Collection for Reporting

Data for this community service report was obtained through:

- Webinar registration database
- Participant attendance records (Zoom attendance log)
- Feedback and satisfaction surveys were collected online
- Documentation included screenshots, video recordings, and presentation slides

#### Data Analysis

The collected feedback data was analyzed descriptively to identify participant satisfaction levels and areas for improvement. Attendance data was used to determine participation rates, while qualitative comments from the feedback form provided insight into the benefits and challenges faced by participants.

#### Ethical Considerations

This activity adheres to ethical standards for academic programs and community engagement. All participants registered voluntarily for this webinar, and consent was obtained through the registration form, stating that their attendance and feedback data would be used solely for reporting and academic purposes.

- Privacy Protection: Attendees' names, contact information, and feedback responses are securely stored and not disclosed to third parties.
- Data Security: Access to the Zoom meeting is password-protected to prevent unauthorized access. Feedback form data is stored in secure cloud storage with restricted access.
- Non-Commercial Use: All presentation materials and recordings are shared for educational purposes only and may not be redistributed without the permission of the organizers and speakers.

## RESULTS AND DISCUSSION

#### Participant Profile

This international webinar was attended by 158 participants from various backgrounds, including:

- Accounting students: 27%
- Lecturers and young researchers: 63%
- Accounting practitioners and other professionals: 10%

Participants came from various regions in Indonesia, as well as neighboring Southeast Asian countries such as Malaysia, the Philippines, and Thailand. This diverse audience reflects the broad appeal and relevance of the webinar topic, which addresses the growing demand for digital competency in research.

#### Attendance and Engagement

Attendance records from Zoom indicate that 92% of registered participants attended the webinar, with an average engagement duration of 96 minutes out of a total of 120 minutes. The Q&A session was very lively, with over 40 questions asked both verbally and via the chat feature. The questions covered topics such as:

- Choosing the right digital survey platform
- Basic steps in web scraping using Python
- Choosing between Power BI and Tableau for visualization
- Ethical considerations in handling online research data

This high level of interaction demonstrated that participants were not only attentive but also eager to apply the methods discussed in their own research projects.

### Participant Feedback

Post-event feedback was collected via Google Forms, with a response rate of 78%. The survey used a 5-point Likert scale to assess several aspects:

Table 1. Participant Feedback

Indicator	Average Score (1–5)
Relevance of content to participant needs	4.76
Clarity of presentation	4.68
Practical usefulness of material	4.72
Effectiveness of online delivery (Zoom)	4.65
Overall satisfaction	4.74

Qualitative feedback indicated that participants appreciated the combination of theoretical explanations and hands-on demonstrations of various tools such as Google Forms, web scraping scripts, and Power BI dashboards. Some respondents suggested extending the duration of the practical sessions to allow for more hands-on practice.

### Key Learning Outcomes

The key outcomes of the webinar can be summarized as follows:

- **Awareness Enhancement:** Participants gained a comprehensive understanding of the scope and importance of digital-based research methods in accounting and finance.
- **Practical Skills Experience:** Demonstrations provided insight into how tools such as Python, Power BI, and online survey platforms can be integrated into research workflows.
- **Ethical Research Mindset:** The emphasis on data privacy, informed consent, and **compliance with regulations such as the Personal Data Protection Law (PDPL)** in Indonesia fostered awareness of responsible digital research practices.

### Discussion

These results confirm that webinars can be an effective platform for providing specialized training on digital-based research methods (Wati, Nurroza, et al., 2024), especially in contexts where participants are geographically dispersed. The high attendance and strong engagement demonstrate that early-career accounting academics recognize the need to adapt to digital research tools to remain competitive in academia and industry.

Furthermore, the combination of conceptual frameworks and hands-on demonstrations addressed both cognitive and practical learning needs. This aligns with previous studies, which **emphasize** that integrating hands-on practice with theoretical instruction improves skill retention and application (Ghozali, Dafa, et al., 2024).

A **key challenge** identified was **the** limited duration **of** the practical exercises, which prevented participants from directly experimenting with the tools. Future sessions could incorporate group discussion rooms or post-event workshops to provide more extensive practice opportunities. Furthermore, follow-up mentoring could be offered to guide participants in applying digital research methods to their ongoing projects.

Overall, this activity achieved its goal of strengthening digital research literacy within the accounting academic community while fostering a collaborative learning environment across countries and academic levels.

### CONCLUSION

#### Conclusion

The International Webinar on Digital-Based Research Methods successfully enhanced participants' knowledge and awareness regarding the application of digital tools in academic research, particularly in accounting. The event effectively combined theoretical insights with practical demonstrations, allowing participants to explore online survey platforms, web scraping techniques, big data analytics, and data visualization tools. High attendance, active engagement, and positive feedback indicate that the program achieved its goal of strengthening research literacy and digital competency among novice accounting academics.

#### Implications

**For Academic Development,** integrating digital-based research methods into accounting education can prepare students and young academics to adapt to the demands of modern research technology. **For Professional**

Practice, the skills introduced, such as real-time data collection and big data analysis, can improve evidence-based decision-making in accounting and finance. For Community Service Model, the webinar can serve as an effective platform for capacity building, enabling broad participation without geographical limitations. For Ethical Research Practice, emphasizing privacy, security, and informed consent encourages responsible digital research in accordance with regulations such as the Indonesian Data Protection and Data Protection Law.

#### Limitations

Time for Practical Application, the webinar format limited the time available for hands-on practice with the tools, preventing participants from fully implementing the methods during the session. Internet Connectivity Issues, some participants experienced unstable connections, which sometimes disrupted interaction. Variety of Skill Levels, Differences in participants' technological literacy impacted the uniformity of learning outcomes. Lack of Follow-Up Support, the event did not include a structured post-webinar mentoring program to reinforce the skills learned.

#### Recommendations

Extend the duration of the practical sessions to give participants more opportunities to experiment directly with tools like Python and Power BI. Provide pre-webinar technical orientation materials to help participants prepare and ensure a more uniform skills foundation. Develop post-event mentoring or online discussion groups to support learning and facilitate implementation of the tools in real-life research projects. Integrate case studies that reflect local and regional accounting contexts to increase relevance.

#### Future Community Service

Based on the success of this webinar, future ICMA community service activities could include:

- Host a Multi-Day Digital Research Workshop: Combine webinars with practical laboratory sessions, allowing participants to complete comprehensive mini-projects using digital methods.
- Develop an Online Learning Platform: Offer recorded lectures, step-by-step tutorials, and downloadable datasets for self-paced learning.
- Establishing Collaborative Research Groups: Connecting participants into small groups to work on real-world research projects using the methods introduced.
- Expanding Topics Beyond Accounting: Introducing interdisciplinary applications of digital-based research methods, such as environmental accounting, financial technology, and sustainability reporting analytics.
- Offer Certification: Award digital badges or certificates of competency to participants who complete advanced training modules.

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# From Big Data to Discovery, Digital Research Methodologies for the Next Generation of Accounting Scholars

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