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Balancing Rigour and Practicality When Conducting Large-Scale, Longitudinal Audio Diary Studies: Guidance for Business and Management Research

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Balancing Rigour and Practicality When Conducting Large-Scale, Longitudinal Audio Diary Studies: Guidance for Business and Management Research

Abstract

Purpose: Our paper aims to expand the methodological toolkit by detailing an approach for conducting large-scale audio diary studies in business and management education research. We address two research questions: (1) How can large-scale, longitudinal audio diary studies be conducted in a way that balances rigour and practicality? (2) What methodological challenges arise when implementing a longitudinal audio diary study at scale, and how might these be addressed?

Design/methodology/approach: We draw on insights from a study with 128 international students in a UK business school who provided a combined 602 reflective audio diary contributions to inform a ten-step process for conducting large-scale audio diary studies.

Findings: We present a flexible ten-step process, discussing challenges and recommendations regarding participant engagement and retention, technology, data quality, and resource demands.

Originality/Value: We conclude with examples of four themes for future research applications of audio diary studies: employability perceptions, mental health and well-being, ethical decision-making and corporate social responsibility awareness, and innovation and entrepreneurial mindset development. These research avenues represent opportunities to promote a sustainable career trajectory for individuals and offer societal benefits via a sustainable career ecosystem.

Keywords: Audio Diaries, Longitudinal, Qualitative Research, Business and Management, Methodological Innovation, Sustainable Career Ecosystem.

Introduction

Diary studies excel in capturing "time-sensitive and context-specific details of a phenomenon" (Unterhitenberger and Lawrence, 2022, p. 1). They provide rich insights into individual experiences that amplify often-overlooked voices, including those from marginalised communities (Alaszewski, 2021) and other hard-to-reach groups (Zimmerman and Wieder, 1977). While diary study methods are growing in use within business and management research (Brecht *et al.*, 2023; Taşkan *et al.*, 2025; Wu *et al.*, 2024), they require expanded methodological and conceptual exploration (Gabriel *et al.*, 2019; Gochmann *et al.*, 2022; Prange *et al.*, 2024). This need is especially pronounced in graduate employability research within business schools, where the use of diary studies as a research method remains limited (Cao and Henderson, 2021; Donald *et al.*, 2025).

When applied to higher education research contexts, diary studies are predominantly conducted over a relatively short timeframe, typically spanning just a week (Beckers *et al.*, 2016; Chen *et al.*, 2016) and often focused on quantitative metrics, such as subjective scores (Nonis *et al.*, 2006; Peterson *et al.*, 2015). This is surprising given the widespread emphasis on reflective writing in business school curricula, which aligns well with diary methods' strengths in qualitative research (Cao and Henderson, 2021). The scarcity of long-term, qualitative diary studies in this field could be attributed to limited comprehensive methodological resources on diary techniques within business and management education (Bartlett and Milligan, 2015; Cao and Henderson, 2021; Hyers, 2018). This is exacerbated, more broadly, by limited opportunities in business and management research for scholars to publish full manuscripts focusing on a specific methodological approach (Budhwar and Cumming, 2020; Donald, 2022).

This gap is problematic, as McPhail *et al.* (2024) observe. They posit that business schools must evolve to be catalysts to address global challenges and find solutions. This context emphasises the need for new methods to capture ongoing, in-depth insights across business

schools and higher education, contributing to what Donald *et al.* (2024a) call a sustainable

career ecosystem, recognising the interconnected and interdependent nature of various actors

(Baruch, 2015).

Adaptable across many research contexts, diary studies present an untapped opportunity

to explore and support complex, evolving relationships and experiences (Radcliffe, 2016) in

business and management education. Such an approach also responds to the need for innovative

methodological approaches in employability and career research, particularly those

incorporating qualitative and longitudinal dimensions (Baruch and Sullivan, 2022).

Furthermore, technological advancements, such as smartphones and online platforms,

enhance the feasibility of large-scale diary studies by allowing flexible and seamless data

collection. Recently, Alcadipani and Cunliffe (2024) explored hybrid ethnography combining

in-person and digital interactions, supported by smartphones and WhatsApp in a police force

context. However, while research in business and management education could benefit greatly

from such flexible methods, most guidance to date has been limited to small-scale, written diary

studies (e.g., Cao and Henderson, 2021) rather than large-scale audio diary approaches. Audio

diaries, in particular, are especially valuable because they "encourage more openness,

directness and self-expression, and perhaps allow for more emotive observations than written

words" (Balogun *et al.*, 2003, p. 209).

To facilitate these opportunities, our paper aims to expand the methodological toolkit

by detailing an approach for conducting large-scale audio diary studies in business and

management education research. By critically evaluating the strengths and challenges of this

approach, we question existing methodological practices and emphasise the potential of diary

methods adopted from other disciplines (e.g., Education (Miles, 2017); Educational Psychology

(Peterson *et al.*, 2015); Healthcare Education (Verma, 2021); Marketing (Olorunfemi, 2024);

Organisational Behaviour (Gochmann *et al.*, 2022); Project Management (Unterhitzenberger

and Lawrence, 2022; Sociology (Cottingham and Erickson, 2020); and Work Psychology (Crozier and Cassell, 2016)). This approach deepens the range of perspectives in business and management studies and aligns with ongoing efforts to introduce qualitative, longitudinal dimensions in employability and career development literature (Baruch and Sullivan, 2022). To achieve our aim, we consider two research questions:

Research Question One (RQ1): How can large-scale, longitudinal audio diary studies be conducted in a way that balances rigour and practicality?

Research Question Two (RQ2): What methodological challenges arise when implementing a longitudinal audio diary study at scale, and how might these be addressed?

In the rest of this essay, we draw from a study with international students in a UK business school (Donald *et al.*, 2025). We outline a flexible, technology-supported process for audio diary studies and discuss challenges and recommendations across four themes. We conclude with examples of future research applications of audio diary studies in business and management education research grouped by four themes, offering societal benefits.

An Illustration of a Large-Scale, Longitudinal Audio Diary Study

Research Question One (RQ1): How can large-scale, longitudinal audio diary studies be conducted in a way that balances rigour and practicality?

In this section, we outline a ten-step approach for conducting large-scale, longitudinal audio diary studies, informed by our own study exploring how Asian international students studying in a UK-based university business school viewed their employability, career aspirations, and career resources (Donald *et al.*, 2025). We also opt to save discussions around any procedural challenges we faced for the next section of this essay. However, we recommend reading both sections together to ensure that informed choices are made, accounting for all available information.

Step 1: Define Research Questions

Following a thorough literature review, we developed three research questions designed to address the aim of our study: (i) What does the term 'employability' encompass for Asian international students studying in a UK university business school? (ii) What are the aspirations of Asian international students studying in a UK university business school? (iii) What career resources do Asian international students studying in a UK university business school feel they need? How can they acquire these resources? Each question provided a foundation for capturing students' insights on their employability and career development needs.

Step 2: Consider the Appropriateness of a Diary Study Method

Researchers should consider employing audio (spoken) instead of written diary studies when participants may be constrained by limited written language proficiency. Speaking skills often develop more quickly than writing skills in second language learners, and many therefore feel more confident expressing themselves verbally, particularly in informal contexts (Cohen and Macaro, 2007). In addition, spoken language production typically places fewer cognitive demands on non-native speakers than formal written tasks, making oral methods more accessible for many participants (Kormos, 2014). Compared with interviews, audio diaries can also reduce the risk of retrospective recall bias by allowing participants to record their thoughts and experiences in real time (Williamson *et al.*, 2015). This method gives participants greater control over the duration, content, and timing of their entries.

Audio diaries are especially valuable for examining individual change over time. By following the same participant across multiple entries, researchers can trace personal trajectories, identify shifts in attitudes or behaviours, and detect significant turning points. Audio diaries can also highlight patterns across participants, revealing how shared or divergent experiences and belief systems shape thought processes over time. Furthermore, paralanguage

features such as tone, sentiment, and vocal inflection provide additional depth, capturing nuances that written diaries or structured interviews may overlook.

Unlike interviews, which are typically retrospective and directed by the researcher, audio diaries are participant-led. This autonomy encourages more spontaneous and authentic reflection. Participants can record entries whenever thoughts naturally arise, producing data that is less constrained by interviewer schedules or pre-set agendas. This method combines the flexibility of semi-structured interviews with the benefit of real-time, self-directed narration, which often yields richer qualitative data. Additionally, because oral communication is generally faster and more spontaneous than written communication (Johnson, 2025), audio diaries can support fuller expression of ideas and emotions than written diaries.

Audio diaries are particularly useful when conducting regular interviews is impractical due to time constraints or logistical challenges. They can also be combined with other methods to strengthen the overall study design. For example, interviews conducted at the beginning of a study can help build rapport and clarify questions, while surveys can collect complementary quantitative data, such as Likert scale ratings, to contextualise diary entries. However, researchers must ensure methodological coherence. If the primary aim is to explore lived experience from a qualitative perspective, any inclusion of quantitative measures must be carefully justified to align with the study's epistemological framework.

As Crozier and Cassell (2016) emphasise in their discussion of methodological considerations for audio diaries in work psychology, the study's aims and research questions must guide the selection of an appropriate methodology. In our case, the research questions clearly indicated that a qualitative approach was best suited to uncovering rich, personal insights. Given the study was conducted alongside a nine-week module, our goal was to explore how and why students' understandings of the term employability evolved over the course of a Master's degree. An audio diary method proved particularly appropriate, as it enables the

collection of "time-sensitive and context-specific details of a phenomenon" (Unterhitenberger and Lawrence, 2022, p. 1) and captures sequential, varied experiences from everyday life (Cottingham and Erickson, 2020). This approach was also well suited to our international student cohort, many of whom found audio recording more accessible than writing detailed diary entries for the reasons previously discussed.

Weekly prompts were designed for each research question. Weeks 1, 4, and 7 focused on employability prompts like 'What does the term employability mean to you?', 'How employable do you currently feel?', and 'Why do you feel this way?'. Weeks 2, 5, and 8 addressed career aspirations, with prompts such as 'What does your ideal career look like? Why?' and 'What would make a career rewarding for you?'. Weeks 3, 6 and 9 focused on career resources, using prompts like 'What resources do you need for your career?', 'Who can help you to acquire them?', and 'Where do you feel you need more support in developing career resources?'.

Through this approach, the study was able to capture rich, evolving insights that reflected both the complexity of employability as a concept and the individual contexts in which students interpreted and navigated it.

Step 3: Assess the Feasibility of the Method

With the diary method deemed as appropriate, we next assessed its feasibility. Initially, we considered written diaries submitted via Microsoft Word documents, emails, or online forms, as they would be easier to process for analysis, due to their typically capped length and the convenience of avoiding the need for transcription by the research team. In comparison, audio diary studies typically result in a larger word count (Pearson *et al.*, 2023), which can be more labour-intensive to work with. However, prioritising data richness over convenience, we chose audio diaries, given the value they offer by encouraging "more openness, directness and self-expression, and perhaps allow for more emotive observations than written words (Balogun

et al., 2003, p. 209). Nevertheless, this choice necessitated using technology to efficiently manage weekly audio entries from up to 250 students, reducing the potential labour required to handle the data manually.

Step 4: Select Appropriate Technology

The range of technologies, platforms and apps available to researchers continues to grow and evolve, creating decision points for researchers. In each case, the evaluation of technology should consider costs, accessibility, practicality, and ethics. Higher education platforms are increasingly sophisticated and have the potential to capture audio notes. However, researchers must consider the data security and ethical implications of their use. In our research, we decided to adopt and modify the approach taken by Alcadipani and Cunliffe (2024) in their hybrid ethnography study. Like them, we also decided to use mobile phones, given their widespread use amongst a student cohort, alongside their independence from the research team. We opted to use the Signal app for receiving weekly audio notes, as it offered particular benefits such as strong end-to-end encryption, alongside the hiding of its metadata, which facilitated enhanced data compliance. Whatever the technology choice, it is vital to consider the implications of the decision. For instance, in using Signal, we needed a burner phone linked to the Signal app, since this avoided the need to use a researcher's personal phone number. Consequently, the participant information sheet advised participants that they needed a mobile phone to submit their audio recordings. Once funding for the burner phone was approved, we linked it to the Signal app and set up a secure, password-protected storage system, organised into nine weekly sub-folders.

Step 5: Secure Ethics Approval

Having defined our research questions, study prompts, audio diary method, and technology choices, we prepared and submitted an ethics application to the Institutional Review

Board. For additional insights into ethical considerations and diary studies, refer to the work of Wojtkowska and Czarnota-Bojarska (2021).

Step 6: Collecting the Data

Following ethical approval, Asian international students enrolled in a mandatory employability module on a postgraduate taught Master's programme at a Russell Group university business school in the UK were invited to participate during semester one of the academic year 2023/2024. Information about the study was shared in Week 1 of the module, and students who wished to participate gave informed consent. They were assured that their decision to take part would not impact their marks, and analysis would only commence after grades for the module were awarded and ratified. Withdrawal from the study was permitted at any time, although data provided up to that point could still be used due to the anonymous data collection process. Students recorded weekly audio diary entries on their mobile phones and submitted these through the Signal app. To encourage a high response rate and prevent attrition over time, weekly prompts were provided in classes. At the end of the module, once the data had been collected, reflective activities were built around the themes. While students opted 'in' (rather than out) to the research component of the audio diary, this integrative approach helped students see value in their participation.

Step 7: Access the Audio Files

Whatever technology is used, it is important to ensure that the audio files can be readily accessed and downloaded. Some software and platforms make audio note extraction difficult, have compatibility issues with other technologies, or lack date-stamping. It is highly recommended that these aspects are considered and piloted *ahead* of data collection, as some issues cannot be resolved retrospectively. Across the nine-week study period of our research, the audio files received were downloaded each week from the Signal app via a computer application and allocated to the appropriate week's data folder.

Step 8: Organise the Audio Files

Before any analysis can take place, the data must be organised so that both within- and between-participant data can be analysed. Unless participant entries can be identified reliably from their recordings (e.g., because they will use a recorded phone number or a University log-on ID), it is imperative that participants provide a personal ID at the start of their recording. If your questions vary week to week (as ours did), it may be necessary for participants to state the question they are answering – within our sample, we found examples of participants answering the wrong week's question, which can affect the data quality if unnoticed. To enable the within-person analysis that can yield great value within an audio diary study, each participant must use a unique personal identifier at the outset. Such identification can also enable a more targeted weekly prompting approach, at the data collection phase (Stage 6). From a potential 250 participants, 128 provided a combined 602 reflective audio diary insights over six consecutive weeks. Data from Weeks 7-9 was discarded in our study because it only accounted for 5 per cent of all responses. The gender split was 53 per cent women and 47 per cent men, reflecting the population under study.

Step 9: Transcribe the Audio Files

Once the module ended and grades were finalised, we used Trint software to transcribe each of the 602 audio reflective diary insights. Again, we opted to use a technology solution here rather than do this manually. At the transcription stage, the researcher again has choices to make, relating to the subsequent analytical approach. In our study, each recording was transcribed into a separate Microsoft Word document, grouped by the appropriate week in which the recording was received since our analysis focused on between-participant evolution (i.e., we explored the evolution of employability at the overall cohort level). However, if a within-person analytical approach is required (i.e., where the research questions focus on the

way a participant's individual experiences develop over a period of time), it may be more appropriate to group the recordings by participant rather than by the week they were collected.

Step 10: Analyse the Data

The versatility of the audio diary approach means that researchers have further choices to make about how they approach data analysis. We used Gioia *et al.*'s (2013) protocol to identify first-order codes, second-order themes, and aggregate dimensions, following a mix of top-down (deductive) coding based on our research questions and bottom-up (inductive) coding within each question's themes. Excel facilitated data management, with weekly entries coded and organised by columns representing themes and codes. Two researchers independently coded entries, discussing and reconciling any discrepancies, which strengthened theme definitions, promoting reliability and trustworthiness. Given the study's size, the analysis focused on group-level changes between time points (Weeks 1 and 4, 2 and 5, and 3 and 6), tracking increases, decreases, or consistency in themes, codes, and their prevalence across these intervals. For within-person analyses, a similar approach can be taken, but where the data is analysed person by person. This can enable researchers to understand critical incidents, which shape subsequent experiences, or how participants make sense of their experiences in the moment. The choice of analytical approach should be driven by the research question of interest.

Summary

This ten-step process provides a transparent, scalable method for future longitudinal audio diary studies, highlighting its utility in capturing complex, evolving experiences. For detailed findings of our study, see Donald *et al.* (2025). Our focus here is on guiding researchers through the methodological process rather than advocating a specific analysis approach.

Challenges and Recommendations

Research Question Two (RQ2): What methodological challenges arise when implementing a longitudinal audio diary study at scale, and how might these be addressed?

Following the lead of Crozier and Cassell (2016), we present the challenges and recommendations derived from our experience using the ten-step approach. These insights are organised around four themes: (i) participant engagement and retention, (ii) technology, (iii) data quality, and (iv) resource demands.

Participant Engagement and Retention

Participants not following instructions

Participants were instructed via the participant information sheet and in the Week 1 lecture to state the week and topic of their audio diary submissions at the beginning of each recording, as well as indicate their gender. However, only a small number of participants adhered to these instructions, often submitting reflective content without the requested identifiers, or about the wrong week's question. In our case, ethics approval restrictions prevented us from reviewing the recordings until after module completion and grade verification. To mitigate this issue, we recommend obtaining ethical approval that allows for real-time access to submissions and, where possible, designing errors out of the process, for instance, through the use of participant logins and IDs. This enables researchers to verify adherence to instructions promptly and reiterate requirements where necessary. AI might also offer solutions to this problem, for instance, by enabling automated (and increasingly personalised) scheduled prompts to encourage participation and reiterate participant instructions.

Variation in response quality

Our participants, international students from Asia studying in the UK, demonstrated varying levels of English proficiency, which occasionally led to responses that were challenging

to interpret or necessitated exclusion from analysis. Allowing participants to share their diary insights in their native language, combined with translation services alongside transcription, could enhance data quality. Additionally, providing clear, engaging instructions on the desired detail level and conducting periodic check-ins can help promote the quality of insights received.

Response fatigue

As observed in other types of diary studies (Gochmann *et al.*, 2022; Miles, 2017; Ohly *et al.*, 2010; Olorunfemi, 2024), participant engagement declined over the study's nine-week duration. Responses from Weeks 7-9 comprised only 5 per cent of the total, so our analysis ended up focused on Weeks 1-6, where two iterations per research question were feasible. Prange *et al.* (2024) recommend frequent dialogue with study participants to maintain engagement throughout the study period. While we maintained regular contact during the weekly module lectures, we did not send reminders between sessions. Timing is another consideration, as our experience was that participation waned as coursework deadlines and exams approached. Offering incentives that increase over time or after key milestones can encourage consistent participation. Alternatively, incorporating interviews at the start and end of the study period can complement diary entries, as shown by Unterhitzenberger and Lawrence (2022). Similarly, incorporating data collection into the module's pedagogy can reduce attrition, thereby having reciprocal benefits for both the students' development and the research (Hughes, 2023).

Technology

Accessing audio recordings

Initially, we linked the burner phone to the Signal App to collect audio files. However, this required a manual process, which became increasingly unsustainable as the volume of entries began to mount. In Week 2, we discovered a desktop version of Signal, which provided more convenient access to entries, but which contained trade-offs in participant identification

and the subsequent organisation of entries. As outlined earlier, we strongly recommend that researchers pilot and test both the technology itself as well as the scalability of the chosen data collection process to ensure that the selected technology solution is conducive to the subsequent analysis.

Automated transcription quality

Using Trint for automated transcription was efficient but yielded mixed results due to participants' varied accents and English proficiencies. Retaining the original audio recordings until the completion of data analysis is advisable, allowing researchers to cross-check transcription discrepancies if needed. As technology advances, transcription accuracy is expected to improve, potentially reducing the need for extensive manual verification. However, given the volume of data yielded by an audio diary approach, this is a time-consuming aspect that must be costed into the research, as additional human resource is required.

Data Quality

Allocating responses to the correct week

As noted in Theme 1, participants often omitted the week identifier at the start of their responses. Although our team organised recordings by week of submission, it became clear during transcription and analysis that some students had submitted responses for multiple weeks in a single entry or had responded to the previous week's prompt. Where feasible, we reassigned these entries to the correct week. However, in cases where the week was ambiguous, we excluded these responses to maintain data quality. To address this issue, we recommend clearly communicating the importance of identifying the week before each submission and submitting separate entries for each week, even if recorded at the same time. Alternatively, providing participants with a unique identifier ID could help, or requiring submission of audio recordings through a software solution that only enables a single and time-bound response. In any case, enabling real-time review of diary entries could also help catch and address such issues at a

time when checks can be done to verify the allocation of diary entries to the correct time in the data collection period.

Mapping responses to specific participants

Our study focused on cohort-level (between-person) changes rather than individual-level (within-person) analysis, aiming to compare codes and themes across specific weeks (i.e., Weeks 1 and 4 (RQ1), Weeks 2 and 5 (RQ2), and Weeks 3 and 6 (RQ3)). For studies requiring within-person comparisons, it would be essential to assign each participant a unique code to use at the beginning of each entry. Initially, we assumed that responses could be grouped by phone number, but we found that some students had access to multiple devices, meaning entries from the same phone number might represent multiple individuals.

Participant validation of transcripts

For optimal data quality, each participant would ideally review their transcript to verify accuracy (Verma, 2021). Unfortunately, this was not feasible in our study due to the inability to match specific responses back to individual students. Where transcript validation is a priority, assigning a unique code to each participant is essential, and in such cases, this process should be outlined in the ethics application and participant information sheet (Wojtkowska and Czarnota-Bojarska, 2021) and then carefully incorporated into the data collection approach. This could be viable where the data collection is built into a module's pedagogy, for instance, where students undertake activities built around their diary entries.

Resource Demands

Technical

Our study required a burner phone, accounts with Signal and Trint, and adequate secure data storage capacity. The selection of specific hardware and software will depend on the study's scope, budget, and available technology in the research jurisdiction (e.g., WhatsApp is inaccessible in China). New technologies continue to emerge, potentially offering more user-

friendly and efficient options for participants and researchers. We recommend exploring these aspects early in the project design phase, ideally testing potential options in a scaled pilot study, as outlined, to assess suitability. Naturally, ethical documentation should reflect how chosen technologies align with data protection standards.

Personnel and time investment

Longitudinal studies require sustained funding, staffing, and support, which can be challenging to maintain. In our study, the automated transcription process required far more manual verification than anticipated, with approximately 70 per cent of entries requiring review instead of the planned 10 per cent. This underscores the need for a robust and realistic project timeline, especially when working with audio data from linguistically diverse participants. We recommend securing adequate funding for personnel, as well as arranging training within the research team so each researcher can handle specific tasks, thereby distributing workload and ensuring thorough, timely data processing.

Summary

Table I summarises the challenges identified in each theme and provides recommendations to address them, supporting streamlined and effective study processes.

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Future Research Application for Business and Management Education Studies

The final part of our manuscript presents future research recommendations that leverage large-scale, longitudinal audio diary studies to enhance socially responsible management practices and reinforce the significance of reflective methodologies in business and management education. Given business schools must evolve to act as agents of change in addressing global challenges (McPhail *et al.*, 2024), audio diaries provide a valuable means of capturing ongoing, in-depth insights (Radcliffe, 2016) to help business schools prepare their students for sustainable career trajectories (De Vos *et al.*, 2020; Van der Heijden and De Vos,

2015). While our manuscript has focused on business school students, diary studies are equally relevant to exploring the perspectives of other actors (e.g., academics, career development professionals, graduate recruiters, national governments, etc.) operating within a sustainable career ecosystem (Donald *et al.*, 2024a).

We now present four potential areas for future research applications of audio diary studies that could meaningfully contribute to strengthening the alignment between business schools and socially impactful objectives. These areas are not exhaustive; rather, they are illustrative of the rich potential for impact that diary studies offer, while reemphasising how their existing underutilisation in higher education research is surprising (Cao and Henderson, 2021). In each of these examples, the audio diary study approach could also be combined with quantitative diary measurement (e.g., Wu *et al.*, 2023) or additional qualitative approaches (e.g., interviews or focus groups) where desirable and appropriate to address specific research questions.

Employability Perceptions

Healy *et al.* (2022) observe the dominance of the employability agenda in higher education. Understanding students' perceptions of employability is essential for ensuring their voices are heard and that career support initiatives, including curriculum interventions, remain relevant (Hughes and Davis, 2024; Okay-Sommerville and Scholarios, 2017; Padgett and Donald, 2023). Audio diary studies are uniquely suited to capture shifts in students' self-perceived employability over time, providing insights into how perceptions evolve and how factors like career interventions or labour market conditions influence them. The method supports research on the university-to-work transition by allowing for studies to span higher education and labour market experiences, addressing calls to bridge graduate and worker employability literature (Akkermans *et al.*, 2024). It also has the potential to amplify voices

from marginalised communities (Alaszewski, 2021) and other hard-to-reach groups (Zimmerman and Wieder, 1977).

Moreover, audio diaries offer a way to advance work-integrated learning research by capturing how employability perceptions change with experiences. Such an approach can complement existing longitudinal quantitative work by Hughes *et al.* (2024) exploring the impact of an industrial placement year on students' competency development by comparing the views of students and their line managers. Tracking reflections over time helps researchers identify the impact of specific interventions, and supporting career services in tailoring programmes that build students' confidence and adaptability. Sustainable career ecosystem theory (Donald *et al.*, 2024a) serves as an effective framework for such research, as it acknowledges the interrelated and interconnected nature of actors (Baruch, 2015) as well as the interplay of person, context, and time dimensions (De Vos *et al.*, 2020).

Mental Health and Well-being

The academic and career pressures faced by business students in business programs often contribute to stress and mental health challenges, making student well-being an essential focus for research. The COVID-19 pandemic further impacted students' hedonic and eudaimonic well-being (Donald and Jackson, 2022), leading universities to seek effective ways to support mental health and well-being in their students (Ma *et al.*, 2024; Thambar and Hughes, 2023). Previous research demonstrates the value of audio diaries in capturing emotional nuances, as seen in studies exploring students' emotional responses to study assessments (Peterson *et al.*, 2015) and with nurses managing workplace stress (Cottingham and Erickson, 2020).

Audio diary studies could provide a closer look at business students' mental health journeys, recording emotional fluctuations, coping mechanisms, and stress triggers across academic milestones. By tracking these reflections over time, researchers could pinpoint

periods when students are most vulnerable to burnout or anxiety, helping institutions implement proactive and targeted interventions. Such longitudinal data can inform the design of mental health and well-being resources that directly address the unique pressures faced by business students. For instance, extending emerging quantitative research on the benefits of participation in serious leisure activities for students' well-being and academic performance (Ma *et al.*, 2024; Mouratidou *et al.*, 2024). Through these insights, diary studies offer a comprehensive perspective on mental health, supporting the development of a campus culture that promotes well-being alongside academic success.

Ethical Decision-Making and Corporate Social Responsibility (CSR) Awareness

Business schools are placing increasing emphasis on ethical decision-making and CSR in response to concerns about the ethical standards of organisations and the need to be a force for good (McPhail *et al.*, 2024). For example, Cornelius *et al.* (2007) proposed a schema for business schools to address ethical expectations, noting that business schools play a pivotal role in shaping the ethical outlook of future managers and executives. Baker (2017) found that interventions aimed at increasing awareness of self and others lead to more thoughtful decision-making in navigating ethical situations. Similarly, Alfirevíc *et al.* (2023) observed that exposure to CSR-related content fostered pro-environmental behaviours among 530 students across three Southeast European business schools. With emerging ethical challenges, particularly in areas like Artificial Intelligence governance (Camilleri, 2023), this focus on ethics in business education is likely to intensify.

Audio diary studies offer opportunities for students to reflect on their evolving views toward ethical dilemmas and CSR initiatives, capturing moments of learning, conflict, and resolution. As students engage with real-world scenarios in their coursework or work-integrated learning opportunities, audio diaries enable them to document their decision-making processes and personal growth in understanding ethics and responsibility. This longitudinal perspective

can provide valuable insights into how theoretical knowledge of CSR influences students' beliefs and professional aspirations over time. These insights can help business schools refine their curricula to foster a deep-seated ethical awareness (Alfirevíc *et al.*, 2023; Bakker, 2017; Singhal *et al.*, 2024), shaping graduates who prioritise social responsibility in their personal and professional lives (Bisschoff and Massyn, 2023; Cornelius *et al.*, 2007).

Innovation and Entrepreneurial Mindset Development

Entrepreneurs are pivotal in driving innovation and supporting economic growth. For instance, 17.8 per cent of 276,000 students across fifty-eight countries plan to pursue entrepreneurship immediately after graduation, rising to 32.3 per cent within five years of graduation (Seiger *et al.*, 2021). This evidences a growing need for higher education institutions, particularly business schools, to develop students' entrepreneurial mindsets (Mouratidou *et al.*, 2024; Zhu and Yang, 2024).

Diary studies offer a tool to track students' progression through entrepreneurial experiences, such as ideation, overcoming setbacks, and managing team dynamics. These reflections provide insight into how essential qualities, including risk tolerance, creativity, and resilience, develop over time. By capturing real-time responses, diary studies can reveal how educational experiences and curricular interventions influence students' entrepreneurial growth (Donald *et al.*, 2024b). These insights allow educators to address the mixed results of traditional curricular interventions aimed at boosting entrepreneurial intention (Nabi *et al.*, 2018).

Moreover, given the positive impact of experiential learning tools like business games on entrepreneurial intentions (Pérez-Pérez *et al.*, 2021), diary studies allow educators to closely observe students' entrepreneurial journeys, helping them design more effective programmes to foster innovative thinking and an entrepreneurial-oriented mindset. This longitudinal perspective is essential for developing future-ready graduates who can thrive in dynamic business environments.

Concluding Remarks

This manuscript demonstrates the potential of large-scale, longitudinal audio diary studies to capture the nuanced and dynamic experiences of participants in business and management education. Through an illustrative study, we presented a structured, technology-supported process for using audio diaries, which allowed us to gain in-depth insights into the employability perceptions, career aspirations, and resource needs of Asian international students at a UK business school. By addressing challenges and offering targeted recommendations across four themes, we provide researchers with a practical approach to balance rigour and feasibility in diary-based research. Our essay contributes to the growing methodological toolkit in business and management education research, advocating for the use of reflective and longitudinal insights. Suggestions for a future research application of diary studies to business and management education provide opportunities for researchers to ensure business schools and their students continue to evolve to address social challenges and contribute to a sustainable career ecosystem.

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Table I: Summary of Challenges and Recommendations

Theme	Challenges	Recommendations
Participant Engagement & Retention	**Participants not following instructions**: Participants often failed to provide week and gender information in audio diary submissions.	Obtain ethical approval to review entries in real-time, allowing researchers to monitor adherence to instructions and issue reminders if required.
	Variation in response quality: English proficiency varied among participants, leading to some responses that were difficult to interpret or unusable.	Allow responses in multiple languages and translate during the transcription phase. Also, provide detailed guidance on response expectations, and conduct periodic check-ins to reinforce quality and requirements.
	Response fatigue: Engagement declined over time, with minimal responses in the last few weeks of the study period.	Increase participant engagement with regular and targeted reminders. Consider project timing around students' academic workload and offer incentives or milestones to encourage ongoing participation. Consider supplementing diary entries with interviews at the start and end of the study period.
Technology	**Accessing audio recordings**: Transferring recordings from the data collection was challenging.	Test setup options early, perhaps through a pilot study. Switch to desktop versions or more accessible software as needed for data access.
	Automated transcription quality: Automated transcriptions were sometimes inaccurate, particularly with non-native speakers.	Retain original recordings until analysis completion to cross-check and correct automated transcription errors. Ensure ethical approval captures this specific requirement. Plan for additional personal resources and time here.
Data Quality	**Allocating responses to the correct week**: Participants frequently omitted the week's identifier or provided entries covering multiple weeks at once, leading to potential misallocation of responses.	Encourage participants to clearly state the week at the start of each entry and submit separate entries for each week. Consider solutions that enable unique identifiers for each week of the study, and/or enable real-time review to catch misallocations early when they can be rectified more easily.
	Mapping responses to specific participants: Shared devices among participants made it impossible to track responses to individual participants via the phone number used to make the audio diary entry.	Assign a unique code to each participant to be stated at the beginning of each audio recording. Ensure ethical approval captures this specific requirement.
	Participant validation of transcripts: Without individual identifiers, participant review of transcripts of validation was not possible.	Assign individual codes to enable participant validation of transcripts. Make this requirement clear during the ethics approval process.
Resource Demands	**Technical**: The study required various technologies, consistent access, and technology interoperability, which posed logistical challenges.	Assess tools and requirements early. Trial options in a pilot study, and select technology that aligns with data protection standards and is interoperable across software systems. Ensure ethical documentation covers technology use and data management protocols.
	Personnel and Time Investment: Transcriptions required extensive manual review and time investment, due to low automated accuracy.	Produce a robust and realistic timeline. Secure funding for researchers to handle specific roles, reducing the overall burden and ensuring data quality through specialised team responsibilities.

Source: Author's Own