
Plan Overview

A Data Management Plan created using DMPonline

Title: Factors Influencing Usability and Perceived Satisfaction with a Continuous Monitoring and Deterioration Alerting System in a Non-ICU Setting: A Mixed-Methods Study

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Project abstract:

The proposed research aims to investigate the factors that influence the usability and perceived satisfaction of a continuous monitoring and deterioration alerting system in a non-ICU setting. The study will employ a mixed-methods approach, using the Unified Theory of Acceptance and Use of Technology (UTAUT) as the theoretical framework. The research question is "What factors influence the usability and perceived satisfaction of a continuous monitor with a deterioration alerting system in non-ICUs from the clinician's perspective?" Data will be collected through a combination of surveys and in-depth interviews with physicians working in non-ICU settings, who have experience with the use of a continuous monitoring and deterioration alerting system. The data collected will be analyzed using both quantitative and qualitative methods, including descriptive statistics, chi-square test, Pearson's correlation coefficient and Thematic Analysis. This research seeks to fill a gap in the literature by providing insight into the factors that influence the usability and perceived satisfaction of a continuous monitoring and deterioration alerting system from the perspective of clinicians. Additionally, this study also aims to contribute to the understanding of how theoretical models such as UTAUT can be applied to the healthcare setting. This research will provide valuable information for healthcare providers and system developers to improve the design, implementation and usage of such systems, resulting in improved patient outcomes.

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Factors Influencing Usability and Perceived Satisfaction with a Continuous Monitoring and Deterioration Alerting System in a Non-ICU Setting: A Mixed-Methods Study

Manchester Data Management Outline

1. Will this project be reviewed by any of the following bodies (please select all that apply)?

- Ethics

2. Is The University of Manchester collaborating with other institutions on this project?

- No - only institution involved

3. What data will you use in this project (please select all that apply)?

- Acquire new data

4. Where will the data be stored and backed-up during the project lifetime?

- University of Manchester Research Data Storage Service (Isilon)

5. If you will be using Research Data Storage, how much storage will you require?

- 1 - 8 TB

6. Are you going to be receiving data from, or sharing data with an external third party?

- No

7. How long do you intend to keep your data for after the end of your project (in years)?

- 0-4 years

Guidance for questions 8 to 13

Highly restricted information defined in the [Information security classification, ownership and secure information handling SOP](#) is information that requires enhanced security as unauthorised disclosure could cause significant harm to individuals or to the University and its ambitions in respect of its purpose, vision and values. This could be: information that is subject to export controls; valuable intellectual property; security sensitive material or research in key industrial fields at particular risk of being targeted by foreign states. See more [examples of highly restricted](#)

information.

Personal information, also known as personal data, relates to identifiable living individuals. Personal data is classed as special category personal data if it includes any of the following types of information about an identifiable living individual: racial or ethnic origin; political opinions; religious or similar philosophical beliefs; trade union membership; genetic data; biometric data; health data; sexual life; sexual orientation.

Please note that in line with [data protection law](#) (the UK General Data Protection Regulation and Data Protection Act 2018), personal information should only be stored in an identifiable form for as long as is necessary for the project; it should be pseudonymised (partially de-identified) and/or anonymised (completely de-identified) as soon as practically possible. You must obtain the appropriate [ethical approval](#) in order to use identifiable personal data.

8. What type of information will you be processing (please select all that apply)?

- Audio and/or video recordings
- Anonymised personal data
- Personal information, including signed consent forms

9. How do you plan to store, protect and ensure confidentiality of any highly restricted data or personal data (please select all that apply)?

- Anonymise data
- Store data on University of Manchester approved and securely backed up servers or computers

10. If you are storing personal information (including contact details) will you need to keep it beyond the end of the project?

- Yes - Other

11. Will the participants' information (personal and/or sensitive) be shared with or accessed by anyone outside of the University of Manchester?

- No

12. If you will be sharing personal information outside of the University of Manchester will the individual or organisation you are sharing with be outside the EEA?

- Not applicable

13. Are you planning to use the personal information for future purposes such as research?

- Yes

Personal information may be kept for up to 4 years for the researcher's future studies that build on the current one.

14. Will this project use innovative technologies to collect or process data?

- No

15. Who will act as the data custodian for this study, and so be responsible for the information involved?

16. Please provide the date on which this plan was last reviewed (dd/mm/yyyy).

2023-02-10

Project details

What is the purpose of your research project?

The proposed research aims to investigate the factors that influence the usability and perceived satisfaction of a continuous monitoring and deterioration alerting system in a non-ICU setting. The study will employ a mixed-methods approach, using the Unified Theory of Acceptance and Use of Technology (UTAUT) as the theoretical framework. The research question is "What factors influence the usability and perceived satisfaction of a continuous monitor with a deterioration alerting system in non-ICUs from the clinician's perspective?" Data will be collected through a combination of surveys and in-depth interviews with physicians working in non-ICU settings, who have experience with the use of a continuous monitoring and deterioration alerting system. The data collected will be analysed using both quantitative and qualitative methods, including descriptive statistics, chi-square test, Pearson's correlation coefficient and Thematic Analysis. This research seeks to fill a gap in the literature by providing insight into the factors that influence the usability and perceived satisfaction of a continuous monitoring and deterioration alerting system from the perspective of clinicians. Additionally, this study also aims to contribute to the understanding of how theoretical models such as UTAUT can be applied to the healthcare setting. This research will provide valuable information for healthcare providers and system developers to improve the design, implementation and usage of such systems, resulting in improved patient outcomes. (put aim only)

What policies and guidelines on data management, data sharing, and data security are relevant to your research project?

- The University of Manchester Research Data Management Policy <http://documents.manchester.ac.uk/DocuInfo.aspx?DocID=33802%20>
- The University of Manchester Records Management Policy <http://documents.manchester.ac.uk/display.aspx?DocID=14916>
- The University of Manchester Publications Policy <http://documents.manchester.ac.uk/display.aspx?DocID=28526>
- The University of Manchester IT policies and guidelines <http://www.itservices.manchester.ac.uk/aboutus/policy/>
- The University of Manchester Intellectual Property Policy <http://documents.manchester.ac.uk/display.aspx?DocID=24420>
- The University of Manchester Data Protection Policy <http://documents.manchester.ac.uk/display.aspx?DocID=14914>.

Responsibilities and Resources

Who will be responsible for data management?

Jo-Fan Pan, Dawn Dowding, David Wong

What resources will you require to deliver your plan?

Qualtrics, data storage, transcription, access to research data storage; equipped laptop; qualitative analysis software such as Nvivo

Data Collection

What data will you collect or create?

- Oral narratives of experiences; interview transcripts from audio recordings.
- Online Questionnaire data

How will the data be collected or created?

- Through face-to-face interviews; the process will be guided by my supervisory team and controlled by peer review.
- Through the online social media, research group and snowballing.

Documentation and Metadata

What documentation and metadata will accompany the data?

Maybe a simple documentation will be made to tell basic details about the data, including who created or contributed to the data, its title, date of creation and under what conditions it can be accessed, as well as some details on the methodology used for collection, analytical and procedural information.

Ethics and Legal Compliance

How will you manage any ethical issues?

1. In this project, I am looking at "teachers' professional identity" and will ask the participants to recount memorable events about their studies on the MA programme in relation to their experience as language teachers. These experiences are not likely to be upsetting ones for my participants as the topic of my study is about language education and teachers' professional identities and they will be asked to think about memorable events that refer to their profession only and not about any personal experiences.
2. To inspire the participants, I, as the researcher, am likely to narrate one of my events (and how I make sense of the event) related to my studying in the UK. For example, I will talk about my awareness of rich variety of English language being used in the UK, my observation of the differences of classroom teaching in the universities in the UK and China, etc.
3. In the unlikely event that the participants feel distressed at any point, I will reassure them that they do not feel obliged to do the interview or think aloud.
4. Before participating, the participants will be fully informed of the purpose of my research through the Participant Information Sheet. I will not know any of the participants beforehand so this will decrease chances of them feeling coerced into participating in my research. I will let them know that they can feel completely free to not agree to participation and that participation is wholly voluntary. A written consent letter will be signed by and obtained from each of them.
5. Once the participants have accepted to participate in my research, I will provide opportunities to them to get together for an informal chat with me if they wish to do this, so that they can meet me and get to know me before our first interview. This may help them feel more at ease once formal data generation gets underway.
6. After the interview or think aloud recording, I will provide the participants with the transcription/summary of their interviews and think aloud data for them to review so that they are happy with it before I begin my analysis.
7. The raw data (which contains private information of the participants) collected will be only known to the researcher.
8. If the participants do not agree to include some of the data, I'll remove that part of data.
9. I'll respect the participants' feelings in the interviews. The interviews can be stopped if the participants feel emotionally uncomfortable, e.g., in anxiety, tension, etc.
10. The data collected will be anonymised and stored in the RDS (Research Data Storage of the University of Manchester) for up to 4 years after the end of my PhD studies.
11. Both think-aloud recordings and the recordings of the interviews will be created with a pass-word protected device. Participants are requested to send me data through Onedrive Business. After the participants share their recordings with me, I will transfer them to RDS immediately and remove them from Onedrive Business.
12. If the participants have a complaint, they can contact my supervisory team or the Research Ethics Manager of the University.

How will you manage copyright and Intellectual Property Rights (IPR) issues?

I will state the copyright of the data, and the conditions for reuse of the data.

Storage and backup

How will the data be stored and backed up?

I prefer to use managed storage and automatic backup services provided by IT Services, such as Research Data Storage of the University of Manchester. The semi-structured interview will be conducted via Zoom and the data will be encrypted on this software.

How will you manage access and security?

The data collected through the semi-structured interviews will be kept confidential and is expected to include limited sensitive information such as demographic background, education level, work experience, and gender. The remaining information collected will not be considered sensitive as the interviews will only focus on participants' professional experiences or beliefs, such as their usability experience with health devices. I will be the sole individual with access to this private data, which will be anonymized and immediately saved in the RDS (and deleted from my computer or any other devices used for sending the data), and kept for a maximum of four years following the completion of my PhD studies.

Selection and Preservation

Which data should be retained, shared, and/or preserved?

Anonymised data will be shared and preserved for up to 4 years after the end of my PhD studies. The raw data will be destroyed as soon as it is anonymised and processed.

What is the long-term preservation plan for the dataset?

The dataset will be anonymised and preserved in the RDS for up to 4 years after the end of my PhD studies.

Data Sharing

How will you share the data?

Findings based on the data will be shared to readers/researchers of the similar field. Raw data will not be shared.

Are any restrictions on data sharing required?

Not applicable.