

ETHICS APPLICATION FORM

Faculty of Social Sciences

Please note:

- **You must not begin data collection for your study until ethical approval has been obtained.**
- ***It is your responsibility to follow the University of Southampton's Ethics Policy (<https://www.southampton.ac.uk/about/governance/policies/ethics.page>) and any relevant academic or professional guidelines in the conduct of your study. This includes providing appropriate information sheets and consent forms, and ensuring confidentiality in the storage and use of data.***
- ***You are advised to read the Advice on Applying guidance document, downloadable from the ERGO II website, before you submit your application.***

Important notice on Risk Assessment:

Health and Safety-type risk assessment is no longer part of the ethics review process. Questions pertaining to ethical and reputational risks have been moved from the old 'Risk Assessment Form for Assessing Ethical and Research Risks' to this form. Please do NOT upload a separate Risk Assessment Form to your ethics application.

However, it is your responsibility to undertake a Risk Assessment for your research study. Depending on whether your study is office based, involves off-site data collection and/or international travel, there are different risk assessment forms you can use. Please use this link to access the forms:

<https://groupsite.soton.ac.uk/Administration/FSHS-Health-and-Safety/Documents/Forms/AllItems.aspx?RootFolder=%2FAdministration%2FFSHS%2DHealth%2Dand%2DSafety%2FDocuments%2FRisk%20assessments%20and%20risk%20register%2FERGO%20interim%20documents&FolderCTID=0x012000BE79A4A3B3DC1143ABB38DFA6B580A8C&View={A5E79215-986A-4471-8CF9-B11F85214687}>

If you need guidance or are unsure about which form to use, please contact your Discipline Health and Safety Rep in the first instance, and the Faculty Health and Safety Officer, Aloma Hack (A.J.Hack@soton.ac.uk), if you have further questions. Supervisors and Line Managers are responsible for ensuring risk assessments are completed for all research studies.

1. **Name(s):** Chi-Hsuan, Cheng
2. **Current Position** PhD in sociology, social policy and criminology
3. **Contact Details:**
Division/School University of Southampton
Email C-H.Cheng@soton.ac.uk
Phone 07562414008

4. **Is your study being conducted as part of an education qualification?**

Yes ☒ No ☐

5. **If Yes, please give the name of your supervisor**

Dr Christopher Hamerton (70%)

Dr Michelle Newberry (30%)

6. **Title of your project:**

A Comprehensive Comparative Study Between the United Kingdom and Taiwan: Public Private Collaboration and Cooperation in Tackling Large Scale Cyber Attacks

7. **Briefly describe the rationale, study aims and the relevant research questions of your study**

With the ever-changing cyber attacks techniques, as well as many reasons such as political factors, economic factors and Covid-19 pandemic that can affect national and international cyber security. The development of cyber security should not just keep up the pace with the techniques conducted by cyber criminals but should go beyond instead. Therefore, by comparing the UK and Taiwan, this research aims to target the current cooperative mechanisms between governments and private sectors on cyber security and propose practical recommendations on the future public-private partnerships.

8. **Describe the design of your study**

Grounded theory method will be used in this study, which will including several phases of data collections and analysis. First, literature review based on existing knowledge and linking it to all existing research will be conducted to build the foundation of this research and the semi-structured interview outline. After the initial semi-structured interview outline are decided and well designed, I will recruit participants. Initially, I anticipate to undertake 16 semi-structured interviews in two categories. The two categories will be described in detail in section 9.

Each interview will be expected to last 1 hr. Data will be collected and stored using digital audio recording (eg MP3) where interviewees permit, with note-taking auxiliary. Interview notes will be typed up according to agreed formats and standards. All the recordings will be transcribed by using the transcribe function on OFFICE 365 WORD web version. The transcription files will be in Microsoft Word (.docx). For data analysis, transcriptions will be coded in NVivo. The coding process includes open coding, axial coding and selective coding.

After the initial data collection and analysis is completed, I will use the initial finding out to revise the interview questions and start the next recruitment. The next recruitment is expected to interview (semi-structured interview) another 16 participants in the same categories described in section 9. Moreover, in order to comprehensively reach the integrity and avoid bias as much as possible, whether to collect data from other categories will be carefully considered at this stage, based on the first data analysis result. The data collection and analysis process will be the same as the initial data collection and analysis.

The iterative recruiting process will be stopped when the research saturation is reached. Before that, I anticipate the recruitment will be repeated 3 times (48 interviews in total). However, the final numbers will be depended on whether the research saturation is reached or not.

9. Who are the research participants?

Participants are from the below three categories:

- 1) Investigators or police officers who are in charge or involved in cyber attacks investigation and prevention (4 Participants from the UK and 4 Participants from Taiwan).
- 2) Private cyber security techniques or services providers (4 Participants from the UK and 4 Participants from Taiwan).

10. If you are going to analyse secondary data, from where are you obtaining it?

Please note that if you are analysing individual-level secondary data (e.g. survey data), you must also fill in and upload the Ethics Application Form for SECONDARY DATA ANALYSIS.

I am not going to analyse secondary data

11. If you are collecting primary data, how will you identify and approach the participants to recruit them to your study?

Please upload a copy of your information sheet. This must be based on the GDPR-compliant template that can be downloaded from the ERGO II website. Note that there is a separate template for UG/PGT applicants. If you are not using an information sheet, please explain why. If you are using posters, fliers or emails for recruitment, these must be uploaded, too. Please note that recruitment by mass emailing to @soton.ac.uk email addresses is not allowed.

For the first category of participants, I will seek the assistance from the School of Economic, Social and Political Sciences at University of Southampton for its connections to the policing enforcement or investigation units in the UK, and I will also seek the assistance from the Graduate School of Criminology at National Taipei University for its connections to the policing enforcement or investigation units in Taiwan. After obtaining the connections, I will then contact them directly by both email and phone.

For the second category of participants, I will use the website CyberDB (<https://www.cyberdb.co/database/uk/> and <https://www.cyberdb.co/database/taiwan/>) to target some famous cyber security providers in the UK and Taiwan, and contact them directly by both email and phone.

For the above two categories, those emails and phone calls will be directly to the gatekeepers. In these emails and phone calls, I will explain the goal of the project and why they are chosen to be the participants and ask the gatekeepers for assistance in introducing suitable potential participants. To make a formal request, I will also send a Participant Information Sheet, a Consent Form, a Qualitative Research Interview Schedule and a formal gatekeeper letter to the gatekeepers. Once the potential participants confirm their involvement, I will start to arrange interviews.

12. **Will you be collecting Special Category data as defined by UK data protection legislation? Will you be collecting Criminal Offence data? If so, please give details.**

Special Category data are sensitive personal data that require greater protection. They include data on an individual's religion; race; ethnicity; health; sex life and sexual orientation; politics; trade union membership; genetics; biometrics. For further information, see:

<https://ico.org.uk/for-organisations/guide-to-the-general-data-protection-regulation-gdpr/lawful-basis-for-processing/special-category-data/>

Criminal Offence data are personal data relating to criminal convictions and offences, or related security measures. For further information, see <https://ico.org.uk/for-organisations/guide-to-the-general-data-protection-regulation-gdpr/lawful-basis-for-processing/criminal-offence-data/>

The information expected to be collected from participants will only contain the nature of cyber attack and the mechanism of how the cyber security works. So, currently, I don't think it will involve any special category data or criminal offence data. However, if it will include any special category data or criminal offence data when the research is ongoing, I will ensure the processing is generally lawful, fair and transparent and complies with all the other principles and requirements of the UK GDPR, including identifying an Article 6 basis for processing, identifying whether an "appropriate policy document" under the DPA 2018 is needed, and completing a data protection impact assessment (DPIA) for any type of processing which is likely to be high risk. Particularly, if any special category data will be included, I will ensure one of the specific conditions in Article 9 of the UK GDPR is met. If five (Employment, social security and social protection, Reasons of substantial public interest, Health or social care, Public health, Archiving, research and statistics) of the conditions in Article 9 of the UK GDPR is going to be relied on, I will further ensure additional conditions set out in the DPA 2018 is met. If any criminal offence data will be included, I will ensure the processing is either under the control of official authority or authorised by domestic law (one of the conditions in Schedule 1 of the DPA 2018 is met).

In summary, I will explain to the gatekeepers that this research is not planning to collect any special category data or criminal offence data. I will also explain what kind of data is special category data or criminal offence data. In addition, I will further explain that if I decide to collect any special category data or criminal offence data during the research, I will have to ensure such processing is necessary for this research and obtain the explicit consent for the processing from the participants. To reach this, this research must be lawful, fair and transparent and complies with all the other principles and requirements of the UK GDPR. Otherwise, the collection of any special category data or criminal offence data will be prohibited.

13. **Where will your data collection take place?**

The semi-structured interviews will be expected to conduct in a space that makes the participants comfortable which could be either the police officers' offices, the cyber security providers' offices or even taking an online interview (Teams will be expected to use).

14. **Will participants be taking part in your study without their knowledge and consent at the time (e.g. covert observation of people)? If yes, please explain why this is necessary.**

No.

15. If you answered 'no' to question 14, how will you obtain the consent of participants?

Please upload a copy of your consent form. A template consent form can be downloaded from the ERGO II site. Note that there is a separate template for UG/PGT applicants. If you are not using a consent form, please explain why.

The Participant Information Sheet, the Consent Form, the Qualitative Research Interview Schedule will be sent to the potential participants by the gatekeepers. Once the gatekeepers confirm that potential participants agree to participate in this project, I will ask the gatekeepers for the contacts of the confirmed potential participants. Then, I will contact these potential participants directly to explain again the goal of the project and why they are chosen to be the participants to ensure they understand the involvement to this study. If the potential participants have questions about the Consent Form or about the project, they can also contact me for further explanation. Once the potential participants express their willingness to participate, I will arrange semi-structured interviews. In the beginning of the official semi-structured interviews, I will explain everything in the Consent Form in person (or via Teams if the interview is conducted online) to the participants again to ensure they understand the purpose of this research, and why they are recruited to participate this research. After the participants sign the consent form, I will collect the original signed forms. But, if the interview is conducted online, I will ask the participant to send a copy of the signed form to me through email. After collecting the signed consent forms, I will scan them and store these scan files in the laptop that UoS provided and make back-ups of them to OneDrive-University of Southampton. The original files will be stored in a desk with six drawers for physical filing storage in my university office and the drawers will be locked .

16. Is there any reason to believe participants may not be able to give full informed consent? If yes, what steps do you propose to take to safeguard their interests?

In the recruitment phase, I will make a formal request by sending a formal gatekeeper letter to the gatekeepers. A Participant Information Sheet, a Consent Form and a Qualitative Research Interview Schedule will be attached for gatekeepers to introduce suitable participants and pass these documents to them to have preliminary understanding of this research.

Once the potential participants confirm their involvement, I will start to arrange interviews. If these participants have any questions, they can write an email to me for further explanation. In addition, in the beginning of the official interview, I will explain everything in the consent form in person (or via Teams if the interview is conducted online) to the participants to ensure they understand the purpose of this research, and why they are recruited to participate this research. In this way, I believe the interests of the participants can be well protected. The interview will continue only when the participants sign the consent form.

17. If participants are under the responsibility or care of others (such as parents/carers, teachers or medical staff), what permission do you have to approach the participants to take part in the study?

Please upload evidence of approval from gatekeepers (e.g. Head Teacher, if conducting research in a school).

No participants will be under the responsibility or care of others.

18. Describe what participation in your study will involve for study participants.

Specify in meaningful detail the experience of participation from the point of view of the participant. You MUST attach copies of any questionnaires and/or interview schedules and/or observation topic lists to be used.

In the beginning of interviews, I will give a brief introduction of this study to all participants at first. Then, all participants will be provided again with a Participation Information Sheet, which gives explanation in details of the purpose of this study, why they are recruited to participate and how they will participate in this study. After participants fully understand this study, they will be given a Consent Form which they need to sign to agree their participation of this study. Then, an official interview around 1 hour will start. The researcher will ask participants several questions as listed in the Qualitative Research Interview Schedule (a copy of it has been attached). The whole process will be recorded (only audio). These recorded files will be transcribed (by OFFICE 365 WORD web version) and encrypt (by using BitLocker). All personal data will be anonymised. And the participants may be quoted indirectly in reports of the research but will be no longer identifiable.

19. How will you make it clear to participants that they may withdraw consent to participate at any point during the research without penalty?

If there is a point after which it is not practicable to eliminate someone's data (e.g., after submission of dissertation), then please state this clearly here and on the Information Sheet. Please note that in fully anonymous online or paper questionnaires, it is not possible to withdraw data after submitting / handing in the questionnaire.

I will state clearly in the consent form that all the participants are allowed to withdraw from the study at any point within a month after their data have been collected. Once the data has been processed and analysed, the withdrawal will not be possible. So I think one month will be a better time scales.

20. Detail any possible distress, discomfort, inconvenience, harm or other adverse effects the participants may experience, including after the study, and how you will deal with this.

Give consideration to aspects such as emotional distress, anxiety, unmet expectations, unintentional disclosure of participants' identity, and assess the likelihood and severity of risks. Specify what precautions you will take or suggest to your participants to minimise any risks of harm (e.g. providing information about support services).

Because the interview questions are only related to the nature of cyber attack and the mechanism of how the cyber security works, which are not sensitive, I do not think the participants will feel distress, discomfort, inconvenience harm or other adverse effects. But, just in case such experience happens, before the interviews, I will make clear to all the participants that if they have any feelings mentioned above, they can choose not to answer the questions or either withdraw from the study.

21. Specify any possible distress or harm to YOU arising from your proposed research, and the precautions you will take to minimise these.

Give consideration to the possibility that you may be adversely affected by something your participants share with you. This may include information of a distressing, sensitive or illegal nature.

I don't think there will be any information distressing me. However, if it happens, I will talk to my supervisors and discuss the countermeasures.

22. Does your planned research pose any additional risks as a result of the sensitivity of the research and/or the nature of the population(s) or location(s) being studied?

Give considerations to aspects such as impact on the reputation of your discipline or institution; impact on relations between researchers and participants, or between population sub-groups; social, religious, ethnic, political or other sensitivities; potential misuse of findings for illegal, discriminatory or harmful purposes; potential harm to the environment; impacts on culture or cultural heritage.

In addition to giving suggestions about how the public private sectors can work together to overcome the cyber attacks, the result may also contain the details about how the cyber attacks happen and the weakness of the current modus operandi, which will probably give cyber criminals ideas on how to improve their skills of cyber attack if they read the result of this study. To minimise such risks, I will suggest a practical direction in this research for the law enforcement and the cyber security providers to strengthen their cyber security strategies.

23. How will you maintain participant anonymity and confidentiality in collecting, analysing and writing up your data?

I will apply codes that only I can translate them to any identifying information such as the name of the participants, the name of the institution the participants work for. There will be no code list so the data will be fully anonymised. These codes will be applied on the transcripts and the announced research result to ensure this confidential information being untraceable. All the participants may be quoted indirectly in reports of the research but will be no longer identifiable. Besides, the code list and the audio data will be destroyed at the end of the project.

In addition to that, all the data will be stored safely and encrypted and be anonymised prior to sharing. Due to the sensitive nature of my data, I will encrypt my data and send via SafeSend (safesend.soton.ac.uk) to my supervisors or for other future use. For the encryption, I will use BitLocker because it is built-in in Windows 10 operating system (my computer runs with Windows 10 system).

24. How will you store your data securely during and after the study?

The University of Southampton has a Research Data Management Policy, including for data retention. The Policy can be consulted at <http://www.calendar.soton.ac.uk/sectionIV/research-data-management.html>

Please note that for UGs and PGTs, it is NOT correct that the University will store data for 10 years or longer. Instead, UG and PGT dissertation study data should be destroyed securely after conferment of the degree, unless strong justifications are made to retain the data for longer.

During the research is still ongoing, my primary digital data will be stored in the laptop (with passwords) that the school provided. I will make weekly back-ups of it to OneDrive-University of Southampton.

After the study, I am responsible for archiving data, and the archive service will maintain it for a minimum of 10 years in the UoS Institutional Repository, as per the University Research Data Management Policy. Transcripts of all interviews, but not recordings, will be preserved. Personal

data will need to be destroyed securely by using software such as BCWipe, WipeFile or DeleteOnClick, at the end of the project.

25. Describe any plans you have for feeding back the findings of the study to participants.

I will send them a copy of my dissertation after submission officially.

26. What are the main ethical issues raised by your research and how do you intend to manage these?

The main ethical issue which could arise here is that this research will have human participants for interviews. Those participants are professionals to the police office system or cyber security services provision companies. The information they provide to this research will be probably involved leakages of confidential information. So, I will use the template of Participant Information Sheet and Consent Form that provided by UoS to ensure all the participants will understand the purpose of this research, why they will be recruited to participate this research and whether they agree to participate.

My data will be anonymised prior to sharing. Due to the sensitive nature of my data, I will encrypt my data and send via SafeSend (safesend.soton.ac.uk) to my supervisors or for other future use. For the encryption, I will use BitLocker because it is built-in in Windows 10 operating system(my computer runs with Windows 10 system)

27. Please outline any other information you feel may be relevant to this submission.

For example, if you have professional qualifications or experience relevant to your study, you may wish to state this here.

No.