

**An investigation into how advancements in
technology have had a major impact on Domestic
Abuse service provisions in the United Kingdom.**

by

Alan Owen

Course	MBA – BMMB70072D University of Wales Trinity Saint David
Advisor	Dr Anthony Burns
Date	12 th August 2022

Abstract

This study explores the role of technology facilitated abuse and how domestic service providers in the UK are coping with technology advancements and their impact on their service provision. As technology continues to advance, the provision of domestic abuse services in the UK are having to adapt to a modern, interactive, and on-line world.

Using qualitative structured questions and interviews with the members of the tech team who are providing frontline services to service users, we explore how their approach has changed and how they are keeping pace with the technology advancements.

Overall, findings showed that it is becoming increasingly difficult for the service providers to keep pace with products and applications that facilitate domestic abuse. The interaction between the major providers of software and hardware with the domestic abuse service providers needs to improve and be at an early stage. They need to ensure that the domestic abuse providers have the correct resources (through access to hardware), have the funding, and that the external agencies fully understand the implications of technology facilitated abuse through regulatory frameworks.

EXAMINATION OF TAUGHT MASTER'S DEGREE DISSERTATION:

NOTICE OF CANDIDATURE FORM

Please complete this form when your dissertation is ready to be submitted for examination.

Surname/Family Name Owen Date of Birth 29/03/1971
Forenames (in full) Alan John Title Mr
Institution Number (if known) Institute of Management and Health
Title of Degree (eg MA, MSc, MBA etc) MBA.....
Title of Taught Master's degree scheme followed (eg Equine Studies) MBA Part Time (online).....
.....
Department/School in which study pursued Carmarthen Business School
Name of your Supervisor Anthony Burns.....
Full Title of dissertation submitted An investigation into how advancements in technology have had a major impact on Domestic Abuse service provisions in the United Kingdom.
.....

Please indicate that the following will all be submitted along with this form:

- ☐ two permanently bound copies of your dissertation plus 1 electronic copy submitted via Turnitin;

SUBMISSION OF DISSERTATIONS

	<u>Final Dissertation submission</u>
	Dissertations to be submitted via Turnitin.

Declaration/Statements page to be included in first sheet of Dissertation submission

DECLARATION

This work has not previously been accepted in substance for any degree and is not being concurrently submitted in candidature for any degree.

Signed  (candidate)

Date .15th August 2022.....

STATEMENT 1

This work is the result of my own investigations, except where otherwise stated.

Other sources are acknowledged by footnotes giving explicit references. A bibliography is appended.

Signed  (candidate)

Date 15th August 2022.....

STATEMENT 2

I hereby give consent for my work, if accepted, to be available for photocopying and for inter-library loan, and for the title and summary to be made available to outside organisations.

Signed  (candidate)

Date 15th August 2022.....

Table of Contents

Chapter 1: Introduction	
Title	6
Background and Overview	6
Problem Definition	9
Aims	12
Research objectives	12
Research Questions	12
Chapter 2: Literature Review	
Introduction	13
Search Strategy	14
Overview	15
How can caseworkers ensure the safety of the service users that are in their care?	16
What processes should be implemented to ensure this safety?	23
How is the relationship between the caseworker and the service user evolving?	30
How can caseworkers keep up with advancements in technology and implement the changes needed?	34
Chapter 3: Research Methodology	
Introduction	38
Semi Structured Questions	44
Sample	45
Ethical and Logical Considerations	46
Limitations	47
Chapter 4: Data analysis	49
Chapter 5: Discussion, Conclusions and Recommendations	59
Discussion	62
Conclusions	67
Recommendations	71
Overall conclusion	76
References	78
Appendix A – Participant Acceptance Form	88
Appendix B – Interview Questions	90
Appendix C – Ethical Approval Form	91

Chapter 1 - Introduction

Title

How advancements in technology have had a major impact on Domestic Abuse service provisions in the United Kingdom.

Background and overview

The researcher currently works with the largest independent Domestic Violence charity in the UK, Refuge. They provide specialist support to women, children and some men escaping domestic violence and other forms of violence. Refuge opened the world's first safe house for women and children escaping domestic violence in Chiswick, West London, in 1971. Since 1971, Refuge has led the campaign against domestic violence. They have grown to become the country's largest single provider of specialist domestic and gender-based violence services. Now we support over 6,000 women and children on any given day.

Refuge's specialist services include refuges, independent advocacy, community outreach projects, culturally specific services and the 24-hour National Domestic Abuse Helpline. Refuge's award-winning campaigns aim to raise awareness of domestic violence and prevent it from happening. Refuge produces research into the effects of domestic violence and other forms of violence, the issues surrounding service provision and how society responds to violence against women and girls.

As the Charity has evolved, perpetrators have used different methods to stalk, threaten and to continue to abuse their victims. In 1971, the technological advancements that we

know today did not exist, those fleeing from the abuse did not have mobile phones, the internet did not exist and remote access to devices was limited to business applications.

Once a service user had fled the perpetrator, they could be housed within a secure location, without any contact from them. There was little or no electronic contact. With the advent of the internet, email and mobile technology, contact has become easier and instant. Service users now leave a digital footprint across the internet and can easily be tracked, stalked and hacked, especially using social media. Images of children, locations, events and other persons connected to them can easily be accessed, if the correct permissions have not been set to restrict access.

In 2009, Refuge developed a specialist Tech Team which provide advice and guidance on the developments of technology and how they impact the safety of individuals escaping domestic abuse. The researcher is an advisor to the team and works closely with them.

The UK Parliament published their Technology and domestic abuse rapid response paper (Christe, Wright 2020) stating that *“The use of technology to perpetrate domestic abuse, referred to as tech abuse, has become increasingly common. Domestic abuse charity Refuge reported that in 2019, 72% of women accessing its services said that they had been subjected to technology-facilitated abuse. Common devices such as smartphones and tablets can be misused to stalk, harass, impersonate and threaten victims. Some groups have raised concerns that the growing use of internet-connected home devices (such as smart speakers) may provide perpetrators with a wider and more sophisticated range of tools to harm victims. How is technology being used to perpetrate domestic*

abuse, how can this be prevented and what role can technology play in supporting victims?”

In this digital world, abusers may use technology to stalk, exploit and control their victims. In the Emerald International Handbook of Technology-Facilitated Violence and Abuse (PenzeyMoog, Slakoff 2021) discussed three unique types of technological abuse: (1) financial abuse via banking websites and apps; (2) abuse via smart home devices (i.e., “Internet of Things” abuse); and (3) stalking via geo-location or GPS. They also argued pregnancy and wellness apps provide an opportunity for meaningful intervention for pregnant victims of domestic violence.

As new apps appear every day, there is no provision for a framework to work towards, these apps are not domestic abuse friendly and many apps provide the potential perpetrator with access to the location and information relating to the service user, such as text and email messages.

This research will benefit all providers of support for domestic abuse to ensure that their awareness levels of the new advancements in technology leads to extra provision to help keep the service users safe.

Problem Definition

As service users of domestic abuse escape their perpetrators, they now face complex technology which can track their movements, their communication and that of their children. We live in a very technical world, many people do not understand how these devices work and are unaware of how they can be used by perpetrators, which can endanger their lives.

A new theoretical framework around technology-facilitated domestic abuse (TFDA) identified four distinct type of omnipresent behaviour (Yardley, 2020) This framework draws upon perpetrators using technologies like smartphones, social media and GPS trackers.

Mobile devices, IoT, connected cars, game consoles, doorbells and any device connected to the internet can be compromised. Email accounts and other Instant messaging services can also leave the service user exposed.

As technology advances, electronic devices and applications become more sophisticated, the potential for tracking and monitoring increases. Knowledge of how the technology operates, the potential for abuse can be difficult to understand for the service users, complex setups with detailed IT knowledge is needed for many applications and devices.

Service users fleeing from abuse are unaware of the devices and applications that they have, which can be used to continue the abuse, even after they have physically left the perpetrator.

A digital footprint is left with every device, registration for online services, text message, email, and app registration. Shared accounts, passwords and access to information can be a window of opportunity for perpetrators. Access from an unusual source such as an Xbox or an Internet of Things can lead to the service user and their children to potential harm and even death.

The services provided by Refuge are one of a safe location where the address is not disclosed, and this safe haven can be compromised by the tech that the service user brings with them. The provision has to be aware of these devices and the accounts that the service user has, before they arrive at the safe location.

As the technology evolves, the case workers are facing a constant battle to keep up with the advancements. Each new application that is released or new device which has the potential to impact the safety of a domestic abuse service user needs to currently be evaluated. Keeping up with the developments, installing applications, purchasing the technology, and evaluating the risk is a very difficult task. Ensuring the safety of the service user is the number one priority for the caseworker, but they also need to ensure that other residents of the refuge and the caseworker's safety is also taken into consideration.

This research is needed as the main providers of software platforms which enable these applications are not considering the impact on the domestic abuse/violence sector. (Woodlock, 2016) stated that "Technology was used to create a sense of the perpetrator's omnipresence, and to isolate, punish, and humiliate domestic violence victims".

They do not provide adequate facilities for these apps to be 'DV' enabled. Settings must be made available within the platforms to turn off any service which could impact on the security of the user at the touch of a button, rather than complex settings, each application administered separately. Research into how this can be achieved is needed so that the platforms become 'DV' aware. 'DV' awareness is essential for the safety of these service users.

(Lopes-Neira et al., 2019) stated that "From home thermostats you can control from your car to home assistants ready to organise your diary at a spoken word, technology is playing a more central role in our daily lives. However, while networked home devices provide many advantages, they also offer abusers an abundance of opportunities to control, harass and stalk their victims. "

Many devices are now connected to the Internet and are accessible via remote options, but many facilities now offered from sources not normally attributed to location tracking, such as cars and electric vehicle charging. These applications allow for remote locking of doors, switching on and off lights and stop/start charging as well as location tracking and trip histories. These facilities allow for a perpetrator to abuse the service user remotely, as well as to track their movements via an app, anywhere in the world.

By allowing a DV setting or conforming to a framework to ensure that the facilities can be easily switched off and ensuring that the providers of domestic abuse services are involved in the development of apps which could impact their work the developers could ensure that the service users of domestic abuse are made aware of the potential for abuse via the technology.

Aims

To determine whether global digital innovations have impacted the provision of Domestic Abuse services in the United Kingdom.

Research Objectives

To critically review the relevant literature surrounding how digital innovations are impacting Domestic Abuse services globally.

To conduct semi-structured interviews with caseworkers to determine how the services are evolving and the dangers involved with digital innovation.

To make recommendations of how digital innovations can be controlled to ensure the safety of service clients.

Research Questions

How can caseworkers ensure the safety of the service users that are in their care?

What processes should be implemented to ensure this safety?

How is the relationship between the caseworker and the service user evolving?

How can caseworkers keep up with advancements in technology and implement the changes needed?

Chapter 2 - Literature Review

Introduction

The literature review shows the current issues that the providers of domestic abuse services are facing regarding the misuse of technology by alleged perpetrators. When analysing the literature available, the researcher focused on literature which related to technology and how it is used to abuse women. Studies on women and how technology was used to facilitate the abuse were also reviewed.

The researcher examined the use of internet devices, and how safety by design could reduce domestic violence. They also investigated the use of technology around adolescents and how the use of technology has become part of everyday life and how UK laws have not kept pace with the technology.

Many organisations now provide online guidance, which was also reviewed, specifically how women who have intellectual disabilities can be abused using technology. The goal of the review was to establish how organisations are providing advice and guidance and to highlight the need for technology providers to work with domestic abuse organisations to ensure that their applications can be made domestic abuse aware and to reduce the technology-facilitated abuse.

Clients accessing domestic abuse services need to ensure that they are safe when fleeing from perpetrators, the relationship with clients, advancements of technology need to be carefully managed to ensure that technology facilitated abuse (TFA) is not used whilst within the care of the service. The researcher analysed teen and adolescence TFA to establish the usage of technology as well as intimate partner violence and the different

techniques used by perpetrators. Looking at how technology that can be designed with safety in mind and how the organisations currently offering domestic abuse services are providing material for service users and ensuring the technology they are using does not impact on their safety.

Search Strategy

The review was conducted using Google Scholar, resources from University of Wales, Trinity St David and literature provided by domestic abuse organisations and the UK government.

Each article was selected because of their relevance to the technology abuse aspect of domestic abuse. Search terms used were:

Technology abuse, harassment, online abuse, modern-day tech abuse, intimate partner violence, technology-facilitated abuse, digitized domestic abuse, information security, technology-enabled abuse, teen-dating violence, technology assisted adolescents, digital abuse, intellectual disability, coercive control, digital stalking.

Overview

Many applications provide benefits to their users, but these benefits can be used by perpetrators to abuse their victims through the technology. Technology Facilitated Domestic Abuse (TFDA). Overall, findings showed that digital devices, online applications, and social media accounts facilitated Intimate Partner Violence (IPV) and exacerbated the consequences of abuse (Afrouz, R 2021).

Qualitative analysis of data from online domestic abuse forums discussed: 1) forms of technology-facilitated abuse being discussed on the forums, 2) the ways in which forum members are using technology within the context of intimate partner abuse, and 3) the digital privacy and security advice being exchanged between victims/survivors on the forums. (Leitão, R 2019). It concluded with a discussion on the dual role of digital technologies within the context of intimate partner abuse, on the challenges and advantages of digital ubiquity, as well as on the issues surrounding digital evidence of abuse, and the labour of managing digital privacy and security.

TFDA is now a major concern for domestic abuse service providers. In their paper 'Current Challenges of Modern-Day Domestic Abuse' (Mayhew, J & Jahankhani, H 2020) proposed that a framework should be adopted titled SHADA—a Smart Home Anti Domestic Abuse framework, practical challenges and areas of e-policing to better engage stakeholders. The chapter concludes with additional areas of further research and provides an outlook on the use of newer technologies such as AI and considerations for the privacy of citizens in smart societies.

How can caseworkers ensure the safety of the service users that are in their care?

In this technological world, children are fully integrated with technology. Mobile technology and applications are part of everyday life. Research into technology-facilitated abuse in relationships (TAR) focuses predominantly on TAR prevalence and correlates. The Multi-dimensional Humiliation Pattern of TAR was experienced by men more than women and had the highest impact. The Multi-dimensional Sexual Coercion Pattern of TAR was experienced by women more than men and had medium impact. Women reported higher impact than men on some behaviours from the Threats and Humiliation dimensions. (Brown, C et al. 2021)

The use of social networking sites, texting and online video calls is now common place. In their paper 'Technology, teen dating violence and abuse, and bullying' (Zweig, J et al. 2013), Regarding other forms of teen dating violence and abuse, 84 percent of cyber dating abuse victims also reported psychological dating abuse victimizations, 52 percent reported physical dating violence victimization, and 33 percent reported sexual coercion. Further, 73 percent of cyber dating abuse perpetrators also reported psychological dating abuse perpetration, 55 percent also reported physical dating violence perpetration, and 11 percent reported sexual coercion perpetration.

A total of 5,647 youth from ten middle and high schools in New York, New Jersey, and Pennsylvania participated in the study. Fifty-one percent of the sample was female, 26 percent identified as non-white, and 94 percent identified as heterosexual.

Abuse using technology is happening at an earlier age, Technology-Assisted Adolescent Dating Violence and Abuse (TAADVA) has implications and this needs to be addressed through education and awareness about healthy relationships, while considering factors

that are associated with TAADVA involvement in prevention and intervention efforts. (Stonard, K 2020)

Digital abuse can also accompany other forms of domestic violence; 96% of teenagers who experienced digital abuse also faced psychological, physical, or sexual abuse from their partners. (Rethi, M 2021)

In a study of four-hundred-and-sixty-nine 12–18-year-old British adolescents regarding TAADVA and the use of Electronic Communication Technology (ECT). Adolescents' experiences of TAADVA victimisation did not significantly vary in terms of the ECT method used and often multiple TAADVA behaviours were experienced in combination with one another across a range of ECTs, demonstrated by the identification of nine factors in the analysis. The findings highlight implications for understanding and raising awareness of the extent and intrusiveness of TAADVA, particularly when multiple abusive and controlling behaviours are experienced via multiple methods or devices. It is advised that assessing the overall construct of abusive and controlling behaviour is avoided in future research and instead, the multidimensionality of the factors identified in the analysis of the TAADVA assessment tool and the different behaviours that these factors encompass need to be considered. (Stonard, K, E 2018)

Technology has yet to be shown to provide an effective solution to any aspect of the victim or service users' experience or support services albeit these are often over-stretched and under-funded even without the Covid-19 pandemic. Digital abuse is increasing with perpetrators adapting new technologies. Digital developments should be grounded on ethical design principles. (Maclure, K & Jones, A 2021)

Coercive control over a partner using technology allow abusers to extend their spatial and temporal control. Technology-enabled coercive control is a continuation of harm, not a new form of abuse. Technology-enabled coercive control is economical, convenient and efficient. (Cuomo, D & Dolci, N 2021)

Digital technology has allowed abusers to stalk, threaten, harass and control their partners through surveillance and instant communication. Controlling intimate partners and tracking their every move can easily be achieved. Technology, then, can facilitate violence, yet can also empower women and enhance their sense of security, as well as transform regulation process. Women residing in regional, rural and remote locations are subjected to particular dangers when exposed to technology-facilitated violence. (Fitz-Gibbon, K et al. 2018)

At the start of a relationship, during and after the relationship, technology can be used to impact upon the lives of the victim.

IPV in adult relationships is often referred to as domestic violence or abuse and may include elements of stalking and harassment. Perpetrators are able to contact, harass, abuse, control and monitor their victims 24 hours a day, seven days a week, instantly, from a distance, and repetitively, both during the relationship and after it has ended (Dragiewicz, M 2014, 2017)

One of the most popular narratives of online harassment or abuse is that the perpetrator is a stranger. Or that the perpetrator is a misguided youth using the anonymity of the internet to express antisocial behaviours that he can't get away with in real life. Another narrative is of sexual perversion, in which older, entitled men groom underage girls into

sharing sexual images or videos and meeting up with them. Whilst these accounts exist, in most cases of online harassment. The perpetrator is usually someone the victim knows and often in the context of intimate partner violence. (Lee, K & Anderson, J 2017)

Surveys with 152 domestic violence advocates and 46 victims show that technology—including phones, tablets, computers, and social networking websites—is commonly used in intimate partner stalking. Technology was used to create a sense of the perpetrator's omnipresence, and to isolate, punish, and humiliate domestic violence victims (Woodlock, D 2016)

Many people believe that only mobile phones or computers can be used for domestic abuse. However, from home thermostats you can control from your car to home assistants ready to organise your diary at a spoken word, technology is playing a more central role in our daily lives. However, while networked home devices provide many advantages, they also offer abusers an abundance of opportunities to control, harass and stalk their victims. (Lopez-Neira et al. 2019)

Other sites such as Reddit has a range of forums dedicated to various topics, each of which are moderated by community volunteers. These forums often discuss domestic abuse, and many cases and experiences are discussed. Language analysis reveals interesting patterns used in discussing abuse, as well as initial data about the semantic actions and stakeholders involved in abusive relationships. Multiple classifiers were implemented to determine the top semantic and linguistic features in detecting abusive relationships. (Schrading, N et al. 2015)

Online abuse takes many forms, starting from dating, through to intimate partner violence. Research conducted by (Rocha-Silva, T et al. 2021) concluded that Cyber dating abuse and digital dating abuse tend to be the most prevalent constructs and Digital dating abuse and the initial formulation of cyber dating abuse can be characterized as the most inclusive.

Technology-facilitated domestic abuse (TFDA) very rarely occurs in isolation, it is usually part of a wider continuum of abuse, which is not separate from other coercive and controlling behaviours. Offline and online abuse is interconnected and within the context of domestic abuse, often co-occurring. Devices used to monitor physical identity of individuals such as location, image or sound are also accessible via websites. Covert cameras and microphones or GPS trackers are easily obtainable from popular online retailers such as Ebay and Amazon. The wide range of forms that these devices can be hidden in is concerning, especially when the ones in toy shapes are considered. These devices enable perpetrators to access victims via their children and the gifts given to children become more of an issue. (Sugiura, L et al. 2021)

Research from the Western Sydney University Research Collection shows that domestic abuse is an inherently gendered crime. Research consistently shows the overwhelming majority of offenders are male and the victims are female. (Hadeel, A 2017)

Many victims of domestic abuse find that technology is being used to find them, using many different technologies and many different methods. Research by (Stonard, K et al. 2015) using a sample of 52 adolescents (22 males and 30 females) between the ages of 12 and 18. The study found that while electronic communication technology had a positive impact on the development and maintenance of adolescent romantic relationships, such

tools also provided a new avenue for unhealthy, harassment, monitoring, and controlling behaviours within these relationships.

One type of abuse is deepfake videos, these videos are used to manipulate people faces onto other videos, which then can be used to perpetrate intimate partner abuse by making it appear as though one's partner was in, for example, a pornographic video that they were not in fact in.

A fake video that causes an audience to believe that a partner was featured in revenge porn can cause precisely the same kind of reputation, privacy, and property harms, and can rob people of their potential for the rest of their lives. (Doge, A et al. 2018)

A broad range of technologies can be used in intimate partner stalking, including cordless and cellular telephones, fax machines, e-mail, Internet-based harassment, global positioning systems, spy ware, video cameras, and online databases. Domestic abuse using technology has been discussed for a long time. (Southworth, C et al. 2007) discussed the concept of "stalking with technology", and the need for an expanded definition of cyberstalking is presented.

Technology can be of great assistance to the service user of domestic abuse, using their devices to explore knowledge and to contact organisations to help them. Studies show women experience intimate partner violence through technology, but also rely on ICT to find support outside the relationship. These findings indicate that IPV victim-survivors experiences of technology-based abuse are related to other forms of gender-based violence and, anecdotally, have been linked with stalking and homicide. Four specific

forms of online abuses are described—monitoring, cyberstalking, harassment, and humiliation. (Brown, M et al. 2018)

Domestic abuse is recognised as a crime and great progress has been made in ensuring that perpetrators are prosecuted. However, this progress is at risk of being undermined by the intersection of two recent developments, first, teenagers normalizing unhealthy relationship patterns through pervasive use of technology, and second, law enforcement's inability to adequately respond to cyberstalking. (King-Ries, A 2011)

The use of technology within children is now commonplace, nearly all teenagers will possess a smartphone. (Lucero, J et al 2014) undertook research into gender differences in socially interactive technology (SIT) use/abuse among dating teens from Michigan. It concluded that texting and social networking were the most commonly used types of SIT. Spying/monitoring, sexting, and password sharing/account access were the most common abusive actions. Distrust and jealousy were the most frequent consequences. Young men and women differed in their conceptualization of SIT abuse. Most participants agreed that some abusive actions were typical parts of adolescent dating experiences.

As technology usage increases and the complexity of the applications and with increased connectivity, the problem of domestic abuse through technology continues.

What processes should be implemented to ensure this safety?

(Slakoff, D & PenzeyMoog, E 2021) in their book 'As Technology Evolves, so Does Domestic Violence: Modern-Day Tech Abuse and Possible Solutions' concludes that while there is no way to ensure users' safety in all situations, we argue thoughtful considerations while designing and building digital products can result in meaningful contributions to victims' safety.

It concludes with PenzeyMoog's (2020) "Framework for Inclusive Safety," which is a roadmap for building technology that increases the safety of domestic violence survivors. This framework includes three key points: (1) the importance of educating technologists about domestic violence; (2) the importance of identifying possible abuse situations and designing against them; and (3) identifying user interactions that might signal abuse and offering safe interventions.

The most important part of this is the importance of educating technologists about domestic abuse and how their developments could be used to facilitate a perpetrator.

Frameworks can provide safety, but there is an argument that TFDA must be understood as a neoliberal manifestation of patriarchal legacies of misogyny and sexism. A failure to recognize this will serve to prioritize abusers' freedom to do harm over rights of survivors to be protected from harm. (Yardley, E 2020)

Use of fake social media accounts are becoming more common elements in cases of domestic and family violence homicide. Many new technologies involving 'Smart Glasses' have sparked privacy concerns; The glasses contain cameras and microphones that enable (potentially covert) recording. This technology can be used to coerce, control and threaten survivors. The eSafety Commissioner's Safety by Design initiative aims to make user safety a priority in the design, development and deployment of online products and services. The initiative revolves around three basic principles.

The first is that service providers are responsible for making user safety the number one priority. This means platforms and other companies work to anticipate how their products may facilitate, increase or encourage harm. In this way the burden of safety will not fall solely on the user.

The second is that users should have power and autonomy to make decisions in their own best interest. Platforms and services should engage in meaningful consultation with users, including diverse and at-risk groups, to ensure their features and functions are accessible and helpful to all.

The third principle is transparency and accountability about operations and published safety objectives is essential. This also helps users to address safety concerns.

There is growing support for these principles among tech companies. Last year IBM published its own guide to "coercive control resistant design". (Harris, B 2021)

One method for measuring the technology-facilitated abuse in relationships is the TAR scale. The scale measures victimisation, perpetration and impact across all digital devices and applications.

Exploratory factor analysis yielded a 30-item, 4-factor scale: Humiliation, Monitoring & control, Sexual coercion, and Threats. Results provide support for the scale being a reliable and valid tool. (Brown, C 2021)

(Ramsay, N 2019) interviewed practitioners about approaches to using technology to address domestic and sexual abuse, particularly in the United Kingdom. Their findings included that multiple digital tools exist, technology can produce new risks for abuse, gaps in online service exist, and that real-time support is needed. Practitioners listed 10 barriers to creating digital services: "Accessing flexible early-stage funding; finding the right digital partner; knowing what it should cost; collaborating with other organisations in the sector; knowing what else exists; safeguarding against discovery by perpetrators (including sensitive marketing); building trust in the safety of the solution; embedding tech skills in the organisation; sharing learning from user research and development; open sourcing solutions."

Legal cases relating to domestic abuse have seen a rise in the use of technology and there is a need to ensure that any abuse is documented correctly to allow prosecution. Advances in information and communication technology, together with increased access to such technology, have led to a rapid rise in technology assisted domestic violence (also known as technology-facilitated stalking and abuse). This is reflected in the experiences

of clients seen by Women's Legal Services NSW ('WLS NSW') as well as in the results of the latest national survey of domestic violence workers - 98 per cent of whom stated that they had clients who had experienced technology-facilitated stalking and abuse. (Sun, C 2015)

Many laws, however, have not kept pace with the technology and this becomes very challenging for the caseworker to ensure that the process of creating a case for prosecution is correct. With technological advances, the creation and distribution of child sexual abuse material (CSAM) has become one of the fastest growing illicit online industries in the United States. Perpetrators are becoming increasingly sophisticated and exploit cutting-edge technology, making it difficult for law enforcement to investigate and prosecute these crimes. (Cullen, O et al. 2020)

Intervention approaches differ depending on the services offered to service users and how the developers of applications can be approached to ensure that the services can be domestic abuse aware. How a supplier reacts to reports of domestic abuse on specific accounts needs careful consideration.

Oftentimes, the abuser has access to the victim's accounts and devices, making it easier for the abuser to exploit technology to stalk and harm the victim. In settings of intimate partner violence, technology can be misused through ownership-based access, where the abuser has access by being the owner of the device or account or through shared accounts and uses the access to digitally control access or track the victims' location,

monitor their usage, among other methods. The abuser can also compromise the victim's account or device through hacking the device or forcing the victim to reveal passwords. The abuser can then install spyware on the victim's device, monitor the victim through a dual-use application that is considered to be "legitimate", track the victim, or monitor the use of the victims' accounts. Norton Mobile Security sends notifications when a user scans their device and when spyware is detected. However, if the abusers happen to see the 1 spyware alert, it could pose as a potential safety threat to the victim. When victims contact Norton's customer support about the security issues that they face, customer support provides technology solutions for their software. However, customer support could potentially assist victims of IPV by notifying them of potential safety issues and providing them with resources for safety planning and social work resources. (Narakornpichit, J 2020)

Coercive control used to be viewed as physical and mental control, which was in-person control from a perpetrator. Technology provides a means for perpetrators of DV to enact coercive control that transcends fixed borders and boundaries (Dragiewicz, M et al. 2018) The monetization of online abuse via traffic-linked marketing is another barrier to effective responses to TFCC.

During the COVID-19 pandemic, many domestic abuse service users found themselves trapped with their perpetrator who exploit the pandemic and used technology to control them. In-person counselling services, online services and telephone conversations proved to be difficult to hold whilst the perpetrator was with the service user for longer periods of time. "In lockdown, many of the women we

supported were living with perpetrators of abuse, and we received countless reports of tech threats,” says Jane Keeper, the director of operations at Refuge. (Godin, M 2020)

Establishing processes can be a very complex issue, applications and technology is changing constantly and all agencies involved in domestic abuse cases need to be aware of technology abuse. A study in 2021 found that technology-facilitated abuse’s complexity and integral role in domestic violence and can assist clinicians to understand the impact and harm that can result from technology-facilitated abuse. (Fiolet, R et al 2021)

Many guides are being developed to ensure that the caseworkers continue to ensure the safety of the domestic abuse service users in their care. Providing guidelines for service users. At the beginning of 2012, Jennifer Parry, e-victim advocate and cyberstalking expert, suggested that Network for Surviving Stalking (NSS) should embark on a project focused on the technology aspects of cyberstalking, the outcome of which could be a set of guidelines for victims to help them understand and learn to deal with the day-to-day risks presented by digital technology. (Parry, J & Women’s Aid, 2012)

Stalking is often perceived as only a crime against women. It is true that women are more likely to be victims of stalking and they are also more likely to be physically assaulted or murdered by their stalkers. According to the Home Office, 9.3% of men and 18.7% of women have been victims of stalking since the age of 16 (UK Home Office, January 2011).

Offender characteristics

- 39% partners or ex-partners
- 36% known people (date, friend, acquaintance, or colleague)
- 33% strangers
- 4% family members

(UK Home Office, January 2011)

Many helplines are available 24 hours a day, 365 days a week. In the UK, The National Domestic Abuse Helpline is administered by Refuge. As well as telephone services, new technology developments allow for the service user to contact the helpline, including Livechat, Chatbots and email. (<https://www.nationaldahelpline.org.uk/>) Websites provide information about the services, but visiting a site leaves a browser history and many sites now have a quick exit function which immediately buries the website in the history and references another page. Refuge are one of the first providers to also provide a British Sign Language service.

How is the relationship between the caseworker and the service user evolving?

Caseworkers are facing ever increasing complexity with their case work. Reports on a small-scale qualitative study exploring technology-facilitated domestic abuse—related practice experiences of seven female-identifying social workers practising within regional Victorian family violence services. The study identifies that technology-facilitated domestic abuse is often nebulous and immune to available legal and social support remedies. The study findings invariably point to fundamental flaws in the policy and legal structures that shape family violence services. (Williams, R et al 2021)

Domestic abuse services will need to evolve and change how they interact with their service users. Increasing numbers of service users are suffering technology abuse. (Messing, J 2020) reported Across two quantitative samples, 62–72% of women reported experiencing direct stalking and 60–63% reported experiencing technology-based abuse by an intimate partner.

In the UK, the Domestic Abuse Bill 2020 has been proposed, A Home Affairs Select Committee report, published on 27th April 2020, identified a global surge in pandemic-related domestic violence and noted that the UK was following this pattern with cases 'Escalating more quickly to become complex and serious, with higher levels of physical violence and coercive control. (Kellam, A 2019) This new bill will propose changes for the service providers and changes to the law.

(White, N 2019) discussed the impact on women when domestic violence service providers do not provide current information about technology-related abuse to promote safety when providing service to victims. This lack of information can put the safety of the service user at risk.

A Government consultation in 2018 (Tanczer, L et al. 2018) found that Interviewees and focus group participants have highlighted that support services' knowledge base is their "biggest challenge" when it comes to tech-abuse. Many respondents expressed that they "don't know what [technical] advice and information to give to women" or who to contact when they suspect technical interference or tampering. This knowledge base is essential for the safety of the service user.

Policing is struggling to cope with demand for domestic abuse in England and Wales. With many police struggling to meet demand, some are exploring algorithms as a means to better predict the risk of serious harm and so better target their resources. (Bland, M 2020). An algorithm is a set of instructions for solving a problem or accomplishing a task, these algorithms can be developed so that specific aspects of calls can be monitored by software to determine the risk of serious harm. Utilising algorithms to predict the risk would allow software to interpret the information and assign a risk category to the case, this would then be used to assign resources to the case. Obviously, this method is only a guide for assessing risk and will still need human intervention.

These algorithms could be used by service providers to better target their resources if the police find them successful in dealing with Domestic Abuse cases.

A systematic review of police initial responses to domestic abuse (Vigurs, C et al 2016) found very little evidence relating to actions police officers should take when attending a domestic abuse incident. Specifically, there is a paucity of evaluative evidence in relation to alternatives to arrest.

There is evidence from one data source that police attendance in and of itself is effective in reducing victimisation. Arrest also appears to result in modest reductions in revictimisation, though the effect of arrest over and above police attendance is not clear. There is emerging evidence that the use of technology may help to secure more convictions for domestic abuse.

Education programs are essential to the development of technology abuse guidance. Education programs need to move beyond a simplistic 'skills' development model, to consider the connections between gender, technology, power and technologies of power in the 21st century. (Hopkins, S & Ostini, J 2015)

Caseworkers need to ensure that service users are not discriminated due to their intellectual disabilities. (Bridget, H 2021) performed a study on intellectual disability, the key recommendations were that The research participants were eager to learn about safer ways to use technology and would like accessible information to be available, such as visual guides and documents in Easy Read formats.

The frontline workers recommended an integrated approach between the domestic and family violence sector, the disability sector and the justice system, to improve service provision.

Other frameworks have been developed, one such framework was developed by (Matthews, T et al. 2017) which provides a framework for organizing survivors' technology practices and challenges into three phases: physical control, escape, and life apart. This three-phase framework combines technology practices with three phases of abuse to provide an empirically sound method for technology creators to consider how survivors of IPA can leverage new and existing technologies. Overall, our results suggest that the usability of and control over privacy and security functions should be or continue to be high priorities for technology creators seeking ways to better support survivors of intimate partner abuse.

Domestic abuse is not gender related, (Seewald, L 2022) in a study of 1,079 men aged 18 to 35 years found that Technology Facilitated Abuse (TFA) was prevalent among young men, with 1 in 25 reporting delivery only, 1 in 12 reporting receipt only, and 1 in 4 reporting both. Services providing help to men and women need to be aware of this prevalence.

The Domestic Abuse Bill 2019-21 (HC Bill 96) was introduced into Parliament in March 2020. It includes a new definition of domestic abuse and establishes extra protections for witnesses and victims in court. The bill does not explicitly mention the role of technology

in domestic abuse, but the Government has said that it is designed to be “future-proof” to combat emerging trends including tech abuse. (UK Parliament 2020) This new bill will change how the relationship between the caseworker and service user is maintained and developed.

How can caseworkers keep up with advancements in technology and implement the changes needed?

Support services are increasingly faced with demands to deal with technology and domestic abuse. (Tanczer, L et al 2021) stated ‘training, support and assistance, in which participants point to the need for specialist support capabilities to be developed within and beyond existing services’ in the journal of gender-based violence stating, ‘I feel like we’re really behind the game’.

The developments of technology continue to grow, and the caseworkers need specialist advice and guidance. Refuge has setup a ‘Tech Team’ as a specialist unit. However, this is also complicated where English is not the first language of service users. Migrant women with temporary visa status are particularly vulnerable when it comes to domestic and family violence. That vulnerability is intensified when you add technology to the mix. (Harris, B & Dragiewicz, M 2019)

For service users fleeing from alleged perpetrators, the use of mobile technology is essential, however For women escaping violence, mobile technology can be an aid to safety, and it can keep them connected to their community. But they need to be aware of

the risks and safeguards if they are to avoid the technology also being used as a tool of abuse. (Woodlock, D & Webster, A 2013)

Collecting digital evidence of technology facilitated abuse can be difficult, with many perpetrators educated in technology. Abusers seek to exert absolute control over their victims, including financial control. Therefore, when a victim leaves her abuser, she often does so with no financial means to use in subsequent restraining order or custody hearings. She is often, then, forced to collect and present her own evidence to substantiate her claims of abuse. (Chadwick, C 2012)

Developing strategies to tackle domestic violence has evolved over many years as technology has evolved. Recently, Australian governments have given considerable attention to developing strategies to tackle domestic violence. In recognition of the heavy dependency on digital communication devices in contemporary society, some of the initiatives have recognised the rise of technology-facilitated domestic violence ('cyber-violence') (Al-Alosi, H 2018)

Smart devices within homes are providing a new avenue of technology abuse, the understanding of devices and their usage whilst the survivor is currently living with a perpetrator need further development. The speculative attack-vectors and design ideas generated by participants expose, for the first time, survivors' understanding of smart home security and privacy, as well as their needs, concerns, and requirements. (Leitao, R 2019)

A number of applications have been developed to help survivors of domestic abuse and the identification of the abuse, as well as supporting them. However, these applications can lead to further abuse if they are identified by perpetrators. In a survey (Padhiar, D 2017) the participants who took part, the general consensus is that the positives of DAAs outweigh the potential negatives: DAAs can definitely be a useful tool in the identification of cases of domestic abuse and can also provide support to those who have fallen victim to domestic violence.

Resources for caseworkers are available from the NHS, including specific web pages provided for domestic abuse provision (<https://www.nhs.uk/live-well/healthy-body/getting-help-for-domestic-violence/>) these can be used for signposting and to provide an initial guide for survivors.

The National Network to End Domestic Violence senior technology safety specialist (Rachel Gibson) stated "Technology has really become a large part of everyone's lives. If someone is experiencing tech misuse, they may also be experiencing other forms of abuse like physical violence or emotional abuse," (Kam, K 2020)

One organisation which is developing design principles is IBM. Their five technology design principles to combat domestic abuse, this comes after a UN call for measures to combat technology facilitated abuse. Creating products that do not contribute to, or enable, society's problems is an ethical responsibility of all companies—not only because it is the right thing to do but also because it is the best business approach. (IBM, 2020) Specialist service providers are engaging with this design principles.

Domestic abuse is on the increase within the UK, 2 million people suffer some form of domestic abuse each year in England and Wales. And currently over 100,000 people in the UK are at high risk of being murdered or seriously injured as a result of domestic abuse. Almost half (47%) said that they were monitored, and a quarter said they did not know. (Lee, L 2019)

Specific online and digital abuse services are now being produced by specialist service parties, these include online resources and Livechat. Online platforms are increasingly used to perpetrate domestic abuse, with a third of survivors who responded to a [Women's Aid survey](#) on online abuse telling us that their partner or ex-partner had used spyware or GPS locators to track them down. (Women's Aid 2021)

Chapter 3 - Research Methodology

Introduction

Our primary research method will be qualitative structured questions and interviews with the members of the tech team and other frontline case workers who perform front line services to survivors of domestic abuse.

It is envisaged that 15 people will be selected to receive a questionnaire and interviewed. Interviews will be undertaken using Microsoft Teams and recorded. This will allow the interviews to be conducted around their working environment, as the nature of the work means that emergency situations do arise. Each participant is part of the tech team or involved in providing frontline services to survivors of domestic abuse. Each caseworker will be given the option to not participate in the study.

The caseworkers and tech team members are employees of Refuge.

Further research will be undertaken using the 'SafeLives' methodologies and comparing it to the USA and their SafetyNet program.

We will also compare the different approaches to online education through videos and guides and Livechat functions.

The interviews and questionnaires will need to be handled whilst these case workers are involved in 'live' cases and are dealing with survivors every day.

We must ensure that sufficient time is given to allow for the interviews and questionnaires as the safety of the service user and safeguarding must take a priority.

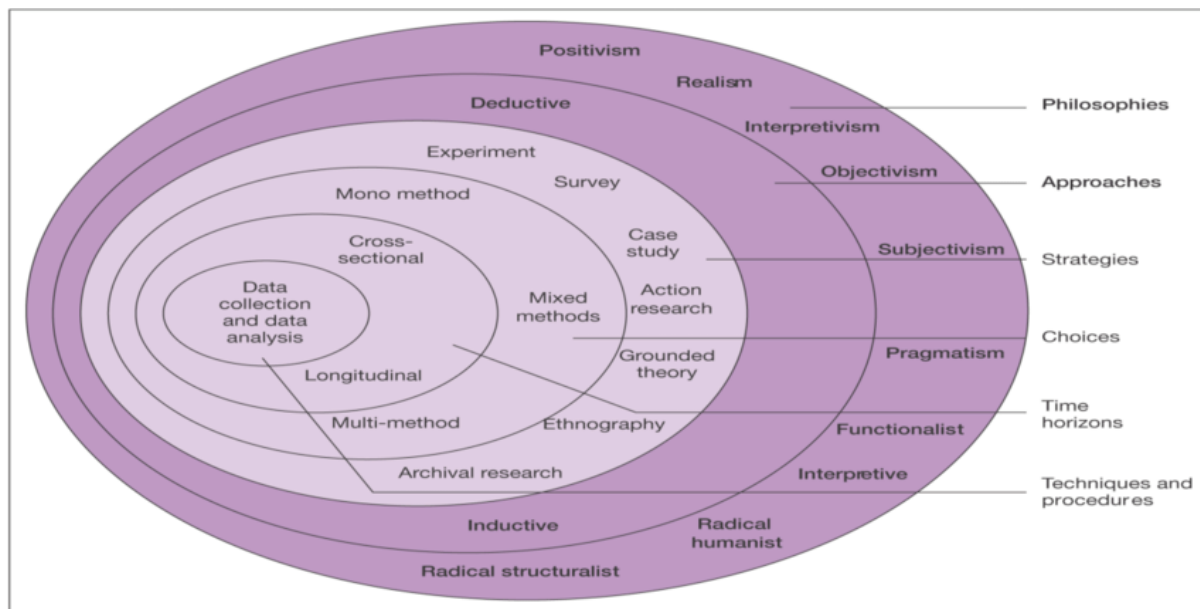
Data will be collected using a qualitative approach to ensure that actual cases can be analysed. Individual experiences are extremely important. The interview will consist of structured and unstructured questions which will be open ended. Each interview will be recorded to ensure that the interviews capture all aspects of the problems faced by the caseworkers. An inductive approach will be used. The purposes for using an inductive approach are to (1) to condense extensive and varied raw text data into a brief, summary format; (2) to establish clear links between the research objectives and the summary findings derived from the raw data and (3) to develop of model or theory about the underlying structure of experiences or processes which are evident in the raw data. (Thomas, D 2003)

The participants are all female (this is due to the service provision provided by the organisation).

There is already an interest across the tech team and the management, but we must ensure that at any time, an interview could be interrupted or re-scheduled. Each participant will be asked to sign a participation form to read and sign, with a copy retained by the participant.

Literature is available from all over the world, and different cultures across the world must be considered. Many different religions and cultures have different views on marriage and domestic abuse. We will be limiting the research to the United Kingdom and the provision of the domestic abuse services provided by Refuge.

The findings will be broken down using the Saunders Research Onion, this model is used by researchers for preparing research methodology. (Saunders, et al. 2015)



Using an interpretivism approach and the qualitative data analysis from the interviews. Using this approach will enable us to extract meanings and perspectives of the interviewees through the research process. Utilising information and experiences from real case studies, this approach will enable us to focus on language and the social interactions as well as the knowledge levels for technological safety.

Using an inductive path to discover how the service provision has evolved to keep pace with the technology and how it continues to evolve to keep pace with new developments, the researcher will take into consideration personal opinions. Using this approach, we can generate meaning from the data set collected in order to identify patterns and relationships to build themes. The data will be systematically collected and analysed to uncover the behaviours and social relationships of the clients as they struggle with technology.

Using surveys, case studies and grounded theory, the data collected can be analysed to study the process of the caseworkers and how their day-to-day activities are affected.

This method will generate new concepts in the using the mono-method approach for the qualitative data collected. The data will allow us to focus on the meaning of the study. We will be conducting cross-case assessment to provide a focal point as far as providing an understanding and description of people's personal experiences in technology abuse.

The data will be collected at a specific point in time, the advancements in technology mean that the problem of security for domestic abuse survivors is constantly changing. Therefore, the researcher will be using the cross-sectional approach. This will enable analysis of numerous characteristics across the technologies available. We will be concentrating on the last 10 years of technological advancement and how this has impacted the service provision.

We will be utilising thematic analysis to identify common repeated patterns in the responses to the semi-structured questions. We have chosen to use thematic analysis and it is the appropriate method to understand the experiences and thoughts of the interviewees. We can identify themes within the data set collected and use these themes to address the research questions. We will be using an inductive approach, as used in grounded theory, this will allow for analysis of the entire dataset collected.

Using an inductive approach will allow the researcher to identify themes that are closely linked to the original data and the research questions. It was chosen as it offers greater flexibility for our research as the personal experiences of the interviewees can then be used within the broader social context.

We will be following Braun & Clarke's (2006) 6-step framework. This framework offers a clear and usable framework for completing thematic analysis. It distinguishes between

two levels of themes: semantic and latent. The researcher identified themes at the semantic level and the analysis focused on interpreting and explaining the data captured.

The 6-step framework consists of the following steps:

Step 1: Become familiar with the data, Step 2: Generate initial codes, Step 3: Search for themes, Step 4: Review themes, Step 5: Define themes, Step 6: Write-up

The themes identified were descriptive using the initial coding structure, describing patterns in the data relevant to the research question.

Utilising recorded interviews and the semi-structured interview questions that were constructed to meet the inductive approach and to ensure that the research questions were answered. Interview questions included:

‘Has your approach to service users differed since technology is being used for domestic abuse?’

Discussing how the approach of the service provider has evolved over many years, individual experiences and case studies can be utilised to ensure that the history of interaction between the caseworker and the service user and how it has changed is relayed to the researcher. The main priority is the safety of the service user and how safety precautions have evolved will be identified by analysing the changes of approach since the introduction of technology and the relationship between the service provider and service user.

‘Do you have access to the actual technology in order for you to analyse and interrogate the actual equipment?’

Access to the technology is fundamental to provide the service provider with early access to new technologies, new releases to ensure safety of the service user. Keeping pace with the advancements and the access to the technology was of utmost importance for this research, it allowed us to expand on the subject and to ask the interviewee for solutions to the problems of hardware and software development and their understanding and interactions with the tech providers.

New developments happen every day, updates, new devices, new apps and removal of applications by tech companies. It is essential that the service provider keeps pace with these developments.

Semi-Structured Questions

The use of semi-structured questions to answer the research questions allows the researcher to analyse the interviews to provide qualitative data. The questions have been carefully chosen so that the views and opinions of the participant can be understood. Safety of the service user is paramount within a Domestic Abuse service, many service users are fleeing from physical, mental, or financial abuse and they rely on intervention, advice, and guidance of specialist service providers to provide this safety net. To provide this service, the relationship between the service user and caseworker can be challenging because of the technology now available. By asking the participant to share their experiences and opinions from actual cases, the relationship and approach to service users will be further understood by the researcher. The pace of technological advancements and ensuring that the service user is made aware of new developments is also a very important aspect to providing safety for the service user. New technology is evolving every day and new applications are released which may compromise the service user's safety. Caseworkers need to firstly understand the technology, provide assistance and undertake training to ensure that they continue to give best advice. Whilst each caseworker is not expected to understand in depth all domestic abuse technology, knowing where to go for help and assistance from other service providers and technology organisations is extremely important. Asking the service provider questions relating to their experiences and if they are struggling to keep pace with technology will provide the answer to these questions. Implementing new processes and continued development through training of caseworkers, the gap between the technology and their use for abuse will also be explored through the questions, providing details of the knowledge gap.

Sample

For this paper purposive sampling will be used. Purposive sampling (also known as judgment, selective or subjective sampling) is a sampling technique in which researcher relies on his or her own judgment when choosing members of population to participate in the study. The researcher will be using this technique as it will be effective in exploring anthropological situations where the discovery of meaning can benefit from an intuitive approach. By selecting the technology advisors to caseworkers, the participants will serve as primary research due to the nature of research design and aims and objectives. The researcher has chosen the participants due to their work with the service users in providing the technological assistance regarding the abuse through technology. The selection has been undertaken with the knowledge of the subject and the context. We will be using the expert sampling technique; the participants have expert knowledge in providers of specialist tech abuse services. Using this expert sample, we are able to examine the specific issues of this research.

There is a lack of empirical evidence within the service provision, many service users' experiences have been examined, but research into the service providers and their experiences is not as prevalent, hence the reason for expert sampling.

The sample of participants is relatively small compared to probability sampling techniques, but this is by design. Utilising the particular characteristics and expertise, this approach will best enable the researcher to answer the research questions.

Ethical and Logistical Considerations

During the study, the rights, care, and consideration of the participants was the primary concern of the researcher. The respect for the dignity of the participants was prioritised. Full consent was received from the participant and all participants undertook the survey voluntarily. The survey was explained to them before the interview process and all interviews were conducted via Microsoft Teams on a one-to-one basis to ensure the participants privacy. Full confidentiality was explained to the participants, including the option to withdraw from the study at any time without feeling an obligation to continue. Informed consent was obtained by each participant before the interview took place. As the participants are caseworkers, working in a sensitive environment and with domestic abuse survivors the participants were reminded that some of the questions may trigger emotions when relating the question to a particular case. The storage of the information collected was explained and that the participants would not be named in the study and their responses would remain anonymous. The data collected from the interview were stored on a Cloud based system and would be in adherence to Data Protection Act (1998).

Limitations

This study has potential limitations. The size of the sample and limited access to interviewees. There is also a lack of prior research in service provider research.

Size of the Sample

The study has concentrated on 5 participants of a specialised tech team in the UK. This was primarily because they are the only dedicated tech team in the UK providing such services, however other tech teams do exist across the world. The negative effect of this limitation is that the tech team have all been trained using the same procedures, they have all worked within the structure of the same organisation and this could provide bias towards the interaction of tech companies with the organisation, as their experience is limited to how the tech companies work with the current organisation.

Limited access to interviewees

Interviews were limited in their time to an hour, due to the nature of the work undertaken by the interviewees and their incredibly high case load and urgent work commitments. This limitation meant that the researcher was limited to 10 years of development tech development and the changes made by in approaches of the tech team.

Service Provider research

There has been a lack of prior research in the specific area of service providers and their ability to meet the demands of an ever-changing tech world in relation to technology facilitated abuse. This is mainly due to the advancements in technology and research

methods concentrating on the service user, rather than the interaction between the service provider and their struggle.

Chapter 4: Data Analysis

For this study, 5 members of the tech team at Refuge were interviewed using semi-structured questions. Each interviewee was interviewed via Microsoft Teams and the session recorded, the same questions were asked of each person, in the same order to ensure consistency.

The purpose of this qualitative study was to assess the impact on the service provision of domestic violence providers and how technology is impacting how this provision is delivered. It determined how the service providers are educating the service users about technology and how it can be used for abusive behaviour.

The interviewees had been involved in the domestic abuse sector for on average 3 years, they had all undertaken previous roles as caseworkers in frontline services, before moving into the specialist tech team.

Each interviewee had worked for the specialist tech team for over 1 year and many had undertaken different roles within the team. One interviewee specialises in Economic Abuse and tech. One interviewee is the specialist tech abuse lead for the National Domestic Abuse Helpline. One interviewee is specialising in implementing and managing external partnerships. We applied a thematic analysis (Braun and Clarke 2006) to the interviews to identify the significant themes.

The researcher consulted the meetings, notes of the meetings. These were analysed to generate initial codes and themes to organise the data in a meaningful and systematic way. We used open coding; that means we did not have pre-set codes but developed codes as the data was interpreted.

Significant codes were collated into themes, which were categorized by their significance. Our themes were predominantly descriptive, i.e., they described patterns in the data relevant to the research questions.

Tale 1 shows how the themes were identified from the questions asked during the semi-structured interviews.

(respondent code refers to interviewee individual assigned code)

Question	Answer Categories	Respondent Code	Number
1. Can you explain your role within the domestic abuse service?	Tech Advocate Economic Advocate External Partnerships Service Manager	A/B/C C/D D E	3 2 1 1
2. What is your experience of Technology Facilitated Abuse (TFA)?	1 – 2 years in team 2 – 3 years in team	A/B C/D/E	2 3
3. Are you struggling to keep pace with tech developments, new devices and the apps available and how do you think these developments could be communicated to service providers? What challenges are you experiencing?	Yes Provider challenges More research needed Small Teams in UK Increase in knowledge Spyware issues Financial Issues No communication	A/B/C/D/E A/B/C/D/E A/D/E A/C/E B/C/D/E B/D C/D A/B/C/D/E	5 5 3 3 4 2 2 5
4. Do you believe that service users are struggling to keep pace with technology and the advancements in software and hardware?	100% Agree Cloud solutions Device linkage Internet of Things Children Issues CCTV Issues Identification problems Digital Literacy	A/B/C/D/E A/B/C/D/E A/B/D/E A/C/D/E A/C/D/E B C/D/E D	5 5 4 4 4 1 3 1
5. What impact do think technology has had on	Increasing Major Impact	A/B/C/D/E A/B/C/D/E	5 5

the service users and how has this impacted their safety? (Is TFA increasing?)	New tools for stalking Parents struggling External agency issues	A/B/C/E A/C/D A/B/DE	4 3 4
6. Has your approach to service users differed since technology is being used for domestic abuse?	Yes Mental Health Impacts Safe communication Default installations Lack of Knowledge Gaslighting issues Device Analysis	A/B/C/D/E A/D/E A/B/C/D A/B/D/E A/C/E A/B A/B/C/D/E	5 3 4 4 3 2 5
7. Do you believe that your current processes are adequate?	Could do more More funding Training provision Third party concerns Needs regulation Wider understanding Professional response inadequate	A/B/C/D/E A/B/C/D/E A/B/E A/E B/C/E B/E A/B/C/D/E	5 5 3 2 3 2 5
8. Do you believe that software and hardware developers are designing their products with Domestic Abuse in mind and that more could be undertaken? (Apple, Amazon, Google, Microsoft etc.)	No User education poor More integration No threat modelling Early intervention More ownership needed	A/B/C/D/E A/B/D/E A/C/D/E A/E A/B/C/D B/D/E	5 4 4 2 4 3
9. Many Domestic Abuse applications available on the app stores have been developed with safety in mind. Do you believe these help or hinder the safety of survivors?	Hindered Injury Capture issues Cloud storage issues Clients feel safer Dangerous App impact not understood	A/B/C/D/E A/B/C/D/E A/B/C/D/E B C/D/E A/B/C/D	5 5 5 1 3 4
10. What is your experience of training provision for service providers, and do you believe they are adequate?	Not adequate Need a DA Voice No threat modelling More training needed Lack of DA understanding	A/B/C/D/E A/C/D/E A/C/E B/C/D A/B/C/D/E	5 4 3 3 5

11. Do you have access to the actual technology in order for you to analyse and interrogate the actual equipment?	Not enough Early prototypes Struggling with clients Knowledgebases Tech companies not providing resources	A/B/C/D/E A/B/C/D/E A C/D/E A/B/C/D	5 5 1 3 4

Table 1 – Question and answer analysis table.

It is clear from the results that the approach to service users has changed due to the pace of technology and the reliance of the service user of such technology. Technology is now fully integrated into every aspect of our lives and the service users and their families are struggling to keep pace with new developments.

Improved funding, early interaction with developers and equipment to ensure domestic abuse is understood would improve the service provision and ensure that the support provided does not put the service user in danger. External agencies need to be trained on how TFA can impact safety.

6 themes were identified for further analysis: 1) Pace of development, 2) Interaction with External Agencies is insufficient, 3) Product Design and Domestic Abuse, 4) Technology Access for service providers, 5) Approach to service users, 6) App Safety

These themes were discussed by all the interviewees during their interviews. There was an agreement amongst the interviewees that there is still so much work that could be undertaken, further interaction and training as well as early intervention during the development phase of products.

Table 2 shows the themes which were identified, along with the interpretation of the voices of the interviewees.

Voices of the participants grouped (Interviewee)	Meaning Interpretation (Researcher)	Concepts/Themes identified
No threat modelling undertaken (P1) More research needed for Domestic Abuse (P1) Threat modelling and more caution required (P1) UK tech team is very small (P1) Increasingly complex cases (P2) Perpetrators becoming increasingly aware of spyware (P2) Increasing technology in new areas (cars) (P2) Confusing, overwhelming for service users (P2) All calls are now involving tech abuse (P3) Perpetrator knowledge increasing (P4) Safety of the users increasingly concerning (P4) Keeping pace with big providers is extremely difficult (P5) Increasing number of providers within the marketplaces (P5) Difficult to implement safety planning (P5)	Technology is moving at such a pace that it is difficult to keep pace. Lack of understanding by service users and providers. Increased knowledge of perpetrators. Safety planning becoming increasingly difficult. Default installations causing issues for safety Different areas of tech now impacting domestic abuse cases.	Pace of development
Inadequate training provision on Domestic Abuse for agencies (P1)	External agencies need more training.	Interaction with External Agencies is insufficient

Tech companies are not doing enough (P1) Tech companies just undergoing 'tick box' exercises. (P1) Postcode lottery for agency knowledge (P1) Needs much better understanding (P2) More courses and training (P2) Companies can do more (P3) Legal processes need refining (P3) Need mutual beneficial partnerships (P3) Non-existent training (P4) Increased understanding of DA (P4) Regulation is key (P4) Experience of survivors is critical (P5) Chasing our tails constantly (P5) Need to be involved at the start of the process (P5)	Much more training, interaction and material is required. Mutual relationships and increased partnerships are required. Needs formal regulation to ensure compliance and safety. Increased understanding of intimate partner violence and TFA.	
Cloud based storage causes major issues (P1) Need more access to new designs (P1) Need to 'Get ahead of the game' (P1) Tech companies are extremely defensive of their applications (P2)	Increased interaction between devices and cloud storage becoming an issue. Interaction needed at early stages of development. Much more domestic abuse awareness needed for product design.	Product Design and Domestic Abuse

Big impact on the safety of service users (P2) Tech companies need more ownership (P2) Could do more (P3) Across the sector, including financial institutions (P3) Many 'bury their heads in the sand' (P4) Increased consultancy (P4) Designers should take DA into account (P5) Little understanding during design phase (P5) Should have a public responsibility (P5)	More training on domestic abuse needed for designers. More responsibility to the public when designing.	
Need more access desperately (P1) Need to access them physically (P1) Difficult to make recommendations (P1) Further funding to purchase products (P2) Interaction with the R&D department (P2) Increased guides (P2) Need more knowledgebases (P3) Tech companies could provide funds and products (P3) Limited resources available (P3) Funding has appeared, but needs more (P4)	Access to technology is insufficient. Needs further funding or agreements for development. Visual guides, knowledgebases and proactive developments are required. Becoming increasingly difficult to support survivors. Time limited calls	Technology Access for service providers

No proactiveness (P4) Need more partnerships with providers (P4) Need more visual guides (P5) Difficult to support survivors (P5) Supporting survivors who may have limited time to call (P5) Compromising safety due to lack of knowledge (P5)		
Situation is not great, route is not simple (P1) Impact on mental health (P1) Children's devices need to be taken into consideration (P1) Now very thorough at the beginning of casework to ensure safety (P2) More and more questions at the start of contact (P2) Regulation of approach for sweeps etc needed (P2) Difficulty in securing home networks (P2) More and more of a struggle (P3) Digital access is across all aspects (P3) Identity verification can be difficult (P3) Regulation is key (P4) Older devices are an issue (P4) Children's devices need to be taken into account (P4)	Approach to service provision has changed massively. Compromised devices and safety of communication is now an immediate priority. Needs regulation. Understanding of connected devices and networks. More knowledge is required. Remote support is an issue.	Approach to service users

Difficulty when English is a second language (P5) Companies are compromising the safety of service users due to a lack of knowledge (P5) Approach is now completely different (P5)		
Major concerns on 'injury capture' applications (P1) Cloud storage and linked devices across multiple logins is an issue (P1) Not usable for evidence in court (P1) Some clients feel safer using apps (P2) Can give false sense of security to clients (P2) Domestic abuse hat, but not specifically tech abuse. (P2) Data collection for evidence using apps can hinder (P2) Can be dangerous (P3) Perpetrators are everywhere in society (P3) Never a perfect app (P3) Developed with good intentions (P4) Understanding of intimate partner abuse rather than external hacks (P4) Can put survivor at risk post separation (P4) Need Police on board (P4)	Applications are often designed with best intentions but can lead to safety concerns. Data collection apps are of increasing concern. More understanding of intimate partner abuse. Understanding flaws in each application developed. Evidence collection and location tracking are of main concern.	App Safety

Significant risk from cloud storage (P5) Most rely on location tracking, so many flaws (P5) Well intended but not thought through (P5) Apps are not perfect for everyone (P5)		
---	--	--

Table 2 - Themes

1) Pace of development

Releases of hardware and software happen each day and have gathered pace, Apple offer nearly 2 million apps, this since 2008, when it was launched with 500 apps. Obviously not all of these apps can be used to facilitate Domestic Abuse but keeping track of new developments is a problem for all interviewees. The pace of development is impacting the service delivery and how it is provided. Default installations of devices (such as Amazon Alexa) are not understood by the service users and the impact on their safety. Service providers are not providing adequate documentation to users to explain how certain functions operate.

2) Interaction with External Agencies is insufficient

The tech team are not alone in struggling to keep pace and understand the technology and how it can be used. Many external agencies, including law enforcement and judges make decisions without considering the issues that can arise from the use of applications and hardware.

This interaction and training for the external agencies was discussed throughout the interviews, work which had been undertaken to ensure the safety of the service user is potentially undone by the lack of knowledge at the external agency, which puts the service user in danger.

3) Product Design and Domestic Abuse

Interviewees were angry that their voices were not heard when discussing the abuse facilitated by applications due to bad design. Many suppliers were very

defensive about their products when questioned regarding the safety of their application. The interviewees all spoke about an increased interaction at an early stage of the development of products with domestic abuse providers, so that any issues relating to the product could be discussed before production.

4) Technology Access for service providers

Access to technology is a major issue for the tech team, they are faced with trying to help service users with securing their technology, when they have not used the technology themselves or in some cases, even seen the product or application.

It is very important to the interviewees that they physically have access to the technology so that they can perform research on the devices to ensure that they can be ready and trained on new products to ensure the safety of the service user.

Interviewees discussed issues with new products or applications that they were unaware of that the service user had purchased. The interviewee had to then research the product using internet search engines to find manuals and product descriptions.

5) Approach to service users

The approach to service users was a common theme running through all interviews, it has changed dramatically over the 10-year period. In fact, it has changed over the last 3 years. Ensuring the safety of the service user is paramount for the tech team but helping them without endangering them is becoming increasingly difficult. Secure communication is a major concern.

In past years, the removal of a service user to a secure location was an easier process than it is now. Consideration of location services on devices, logins, shared accounts and even cars connected to the internet all need to be discussed before the service user is removed.

Keeping the location of secure accommodation is a major issue, it is essential that these locations remain secure, for the safety of the service users and the service providers.

6) App Safety

Many applications that are marketed as 'safety' applications do not take into consideration intimate partner violence and compromised devices. Many applications that collect evidence store their information on the cloud. This has potentially lethal consequences if the account is compromised.

Whilst the interviewees were sympathetic to the developers and the apps were developed with 'great intentions' they are often updated, or new features added which potentially compromise the safety of the service user.

Many applications rely on location services or to call a trusted person in the case of an emergency. This will give away a location of the service user.

Chapter 5: Discussion, Conclusions and Recommendations

Discussion of Findings

The tech team are providing an invaluable service to vulnerable people, who find themselves in extremely frightening situations, where they are scared and alone. It is a very difficult service to provide, and the tech team needs to be very well prepared, educated, and knowledgeable on the latest technical advancements.

Each interviewee has extensive experience in the domestic abuse sector before moving into the specialist tech team.

Pace of development

The technological advancements of recent years have increased the connectivity of every device to the internet, potentially exposing the safety of service users. Much of this technology installs options by default without detailed instructions on how to remove or turn off certain functionality. IBM has published a guide to “coercive control resistant design” but has not been replicated by other providers. (Harris, B 2021)

“Keeping pace with major providers is an issue. We only find out about new products when the public do” (Participant E)

The interviews overall provided evidence that the tech team are struggling to keep pace with the technology that could be used to facilitate technology abuse, especially as they become increasingly complex.

“Increasingly complex devices and systems, perpetrator knowledge and perpetrators working in the IT field is a major concern” (Participant D)

“Software solutions are becoming increasingly used by average users” (Participant C)

Interaction with External Agencies is insufficient

The legal system was a major area of concern for the interviewees, with judges unaware of the implications of orders they are enforcing and the technological abuse that can occur because the service user does not want to break a court order.

Many external agencies are not fully aware of the implications of their actions regarding intimate partner violence and the use of technology to facilitate it.

“non-existent. Helpful if there was more dialogue.” (Participant E)

“Not adequate. No Domestic Abuse understanding. Especially regarding intimate partner violence.” (Participant A)

Sugiura's paper provided evidence that devices enable perpetrators to access victims via their children and the gifts given to children become more of an issue. (Sugira, L et al. 2021) More training, interaction and a regulatory framework is required to ensure that the safety of the service user is maintained during all aspects of a case.

“Needs to be further integration. More briefings and training.” (Participant B)

“No legal framework to work within. Needs organisations to make exceptions from their procedures for domestic abuse cases.” (Participant C)

Product Design and Domestic Abuse

Lopez-Neira discussed how networked home devices provide abusers with an abundance of opportunities to control, harass and stalk their victims. (Lopez-Neira et al. 2019)

The main technology companies make billions of dollars each year, increased profits year-on-year, but the investment back into the domestic abuse sector is extremely small, all interviewees stated that the investment was nowhere near enough to ensure the safety of the service users.

“Consultancy needs to be more at an initial stage.” (Participant D)

“Organisations do not appreciate the full problems that their products can cause to service users.” (Participant C)

Effectively, the abuse was occurring because of the tech companies’ products and the interviewees felt that the tech companies were responsible but were not taking this responsibility seriously enough.

“Companies need more ownership and a framework for safety” (Participant B)

“Threat modelling not included by design.” (Participant A)

Technology Access for service providers

Even when the tech companies were providing some access and interaction, it was felt by all interviewees that this was ‘a tick box exercise’ and the implications of their devices or applications was not understood in intimate partner situations. NaraKornpichit discussed how customer support could assist victims by notifying them of potential safety issues. (Narakornpichit, J 2020)

“Needs more access, tech companies are not doing enough.” (Participant A)

“Funding could be better with increased consultancy.” (Participant D)

The access to new products and services was limited due to budgetary issues and the time needed to research new solutions, this can lead to products not being tested before a service user uses them.

“Need to get ahead of the game. Easier if you have them physically.” (Participant A)

“Had to purchase them. We could be missing a lot of development.” (Participant B)

Approach to service users

The Domestic Abuse sector is becoming increasingly more complex, devices are now being used to facilitate the abuse and to affect the mental health of the service user. Extreme cases of mental abuse using devices have been recorded, with the service user being gaslighted constantly. (White, N 2019) discussed the impact on women when service providers do not provide correct advice on technology when providing the service to users.

“More questions relating to tech at the start of a case to ensure safe communication.”
(Participant B)

“Children’s and older devices are becoming an issue.” (Participant D)

Safety is always the number one priority for the caseworkers and tech team and this safety must not be compromised in any way by the devices being used by the service user. As time evolves, the service users are using more devices, the cases are becoming increasingly complex, and the tech team must evolve with the need of the service users.

“You cannot approach user’s as you did a year ago.” (Participant D)

“Tech safety at the initial stage can be terrifying to a victim.” (Participant E)

App Safety

Many applications which are installed do not allow for functions to be turned off or to provide information when other users are logged into an account or device. Others provide too much information which potentially gives away a location with these features also not able to be turned off. Maclure's discussion how ethical design principals should be grounded on ethical principles. (Maclure, K & Jones, A 2021)

"Cloud storage and location services which are mirrored or compromised give significant risk." (Participant E)

"Flawed. Never a perfect app." (Participant C)

Applications which are developed for support to help the user, often end up hindering the safety of the user due to their design.

"Cloud based evidence if an issue of access is gained to diaries and can put the service user at risk." (Participant D)

"Gives a false sense of security." (Participant B)

Conclusions

There are several conclusions from this research:

Tech companies not doing enough

The belief amongst the interviewees is that the tech companies are not doing enough to ensure that their products are sufficiently safe or have facilities to make them safe for the domestic abuse sector. This is a belief shared by the researcher.

Technology is now a major part in all our lives, internet connected devices are becoming increasingly used, many household products and cars are now app enabled. The companies selling these products, use the connectivity as a selling point, highlighting them to sell their product over a competitor, but no warnings are displayed, no guides on how to turn off functionality and no thought given to intimate partner abuse.

Many applications and devices are secured from external threats by two factor authentication or a user name or password and this is seen as enough by the developers, but more thought needs to be taken when intimate partner abuse is in place.

Many developers are immediately defensive about their products when they are queried by the tech team, they state that their application is secure, as they do not want to admit that functionality is needed to see who is accessing the application, log out remote users, change passwords, change two factor authentication processes and to work with the service providers in emergency situations.

The lack of interaction at an early stage of development with the domestic abuse sector is extremely concerning and creates a lot of issues for the tech team and their service provision.

Investment by the tech companies into the domestic abuse sector, analysing the impact of their products on service users, providing guides, expertise and physical devices needs to improve dramatically according to all interviewees.

Not enough awareness or training

The use of technology for abuse needs much more awareness across the third-party agencies who are involved in cases. More training on exactly how these products are being used by perpetrators needs to be communicated to everyone who has input into a domestic abuse case.

Many tech companies are not aware of how their applications are being used for abuse, how their developments are increasingly putting the service users and service providers at risk. Intimate partner abuse is of the main concern of the interviewees, the tech companies are not aware of the implications of a monitored device or potential access to an email or mobile account which their application is communicating with.

Further work needs to be undertaken to ensure that applications and devices are developed with domestic abuse in mind. Further work of integrating the domestic abuse sector at an early stage of developments is also needed.

Not enough regulation for app development

The two major app stores have millions of apps for download, many of which could potentially facilitate domestic abuse by their lack of design or regulatory requirements for a user to turn off communication easily and quickly or to look at who else is logging into the accounts.

There are thousands of applications available for tracking purposes, many aimed at children and the facility to see where a child is for safety purposes, these applications are useful in some circumstances, but not in a domestic abuse scenario where a perpetrator can see the location of the children if they have been moved to a secure location for their safety.

The action of turning on a device may instigate these applications and for them to communicate with a perpetrator without the service user realising that they are communicating.

It is extremely difficult at the present time to turn off all settings on a mobile device and to stop communication by the applications across mobile networks. Applications can turn on location services when they are activated and the use of the camera or microphone. There is not a facility to 'secure my device', where applications are stopped from using these facilities.

There is no regulatory process for the developer to list the functionality of the device and the potential implications that they may have if the device is compromised in any way. The language used on the application store can be complex and there is no regulatory framework put in place so that a user can check in a standard form what the application accesses and how their safety could be compromised whilst using the application. There

is also no framework where the default setting is identified to the user, before they install the application.

More investment by tech companies

All interviewees agreed that the tech companies must invest more time, money and expertise into the sector, especially the large tech companies whose profits are billions of dollars. Where a tech company has embraced online safety, the interviewees felt that they were 'just going through the motions' and were not actually investing anywhere near the time and effort needed.

It is believed by the interviewees that because highlighting the fact that their device or application could be used for intimate partner violence to the major tech companies, that they do not want the negative publicity and are only interested in their profit margin.

Recommendations

Tech companies engaging with domestic abuse support providers

Any company producing devices, software or applications should engage with the domestic abuse sector at an early stage in their development process. Understanding that their product can have a major impact on the service user would be a major step forward, especially in regard to intimate partner violence.

The providers of Social Media platforms need to interact with the providers and ensure that any abuse which is carried out online and reported by the providers is treated as urgent and immediate action is taken. A regulatory framework for authorised personnel from authorised organisations needs to be established so that immediate action can be taken. Many providers whilst offering a 'trusted' partnership scheme, still take too long to process requests for content to be removed.

Understanding and co-operation is the key factor for new developments, interacting with the domestic abuse service providers at the design stage of products and applications would allow the providers to understand how innovation could be used for harm.

This interaction would allow the providers to prepare for the release of the product, work together to prepare visual guides and to ensure that their staff are fully trained on the product before it is released. This interaction could potentially save lives.

Training provision for external agencies

Further training and understanding needs to be given to the external agencies that are involved in domestic abuse cases. The lack of knowledge of technology by these

agencies, including the Police, Justice system and social workers has led to court orders to use specific devices or software without the full understanding of the consequences.

The cases involving TFA are becoming increasingly complex, the external agencies do not have the expertise or the resources to cope with the increased demand.

Further investment is needed into the technology, the consequences of using the technology and how the products and applications can be used to facilitate the abuse.

When a service user has decided to reach out to external agencies, they should be confident that their needs can be met, their fears regarding the use of technology should be investigated thoroughly. Lack of knowledge of the technology that is currently in use in each individual case, can lead to secure locations being identified, evidence deleted and an increase in the abuse which may lead to homicide.

Understanding the individual case takes time and resources, the tech team understands this and works through a comprehensive checklist after undergoing training to understand the products and their potential to cause harm. Unfortunately, many external agencies do not have this expertise, court orders have been issued which force children to use devices purchased by perpetrators for contact purposes, with no restrictions placed on the device, the applications installed or any monitoring of that device for malware or spyware.

This practise must be regulated, secure devices must be used, which are vetted, monitored and are purely for the communication process outlined by the court and should not have any other applications loaded which may compromise the location of the service user or provide any means to monitor the communication.

The interviewees all stated that they are concerned with the training provision and the lack of understanding of external agencies of TFA, work that they have undertaken to secure devices can immediately be undone by an external agency, putting the service user at risk.

Even advising a service user to leave their home and move to a Refuge can be problematic, checking location tracking across their mobile devices, checking children's equipment, checking which car they drive to see if it has a connected app, checking fitness trackers, all have to be taken into account.

When arriving at an accommodation-based service, not logging into applications such as Netflix (which will give away their location if the account is shared or compromised) is difficult. Many service users with children who are used to technology and gaming devices, Netflix, Social Media can easily expose the location of the secure accommodation.

Funding for this training should be provided by the government to ensure that at no point during an investigation is the service users safety compromised by the actions of an external agency. A full training package should be developed and distributed to the agencies involved in domestic abuse and made mandatory before the individual can work within the sector.

Regulatory framework for companies to provide IT services

At present, there is no regulatory framework for IT providers to work within a domestic abuse case. Analysing equipment, performing sweeps of networks and monitoring traffic is not regulated in any way.

There is no list of trusted companies who can provide this work which will be accepted by the Police or court to ensure that the service user is safe.

Investigating networks and traffic across a network requires specialist equipment, it requires expert training, which the Police do not have. Even if the service user employs a company to provide such a service, the evidence gathered would not be submittable in court as there is no regulation, for instance the company may have placed the device on the network themselves.

The tech team rely on the service user checking for devices at home, gathering their own evidence and sending it via secure means.

Understanding networks, network traffic, devices, malware, key loggers, spyware and other software is a very specialist task. Understanding it within the domestic abuse sector is even more difficult and specialist. The service users are frightened for their lives and that of their children, so to be asked to look for devices, checking access to systems, changing passwords etc is an extremely difficult task for them, especially as many are not tech aware and have not been exposed to the technological nature of these devices and do not understand how they communicate.

It is recommended that a regulatory framework is introduced which companies can sign up to and provide services to the sector to ensure that any evidence that is found is admissible in court. Involving organisations such as the British Computer Society into this development of a framework and designing training packages which the companies must complete, would allow the funding of the training packages and a list of trusted companies to be contacted.

More money invested by the tech companies

It was the consensus of the interviewees that the tech companies could invest more money into the sector, the profits of the major providers (Google, Apple, Microsoft, Facebook, Twitter, TikTok, Instagram) are billions of dollars each year. Very little is invested by the companies into the specialist services needed to ensure safety of service users whilst using their products.

Investment in visual guides, providing funds for more specialist staff, providing an internal department dealing with domestic abuse cases, interaction at an early stage with the domestic abuse providers on new developments is all desperately needed.

With more investment, more co-operation and interaction, the sector would benefit from increased understanding of the abuse, how it is facilitated using their products and how specific issues can be addressed when dealing with intimate partner violence.

Overall Conclusion

The tech team are working extremely hard, under extreme pressure to ensure the safety of the service users, these services are delivered within a very small budget, by a dedicated team of individuals who are very experienced and well trained.

However, the interaction with the companies providing the technology is woeful, it needs to be enhanced and improved dramatically.

Tech companies need to wake up to the fact that their products are being used to facilitate abuse. External agencies need to understand the extent of this abuse, how it is being used and how they need to consult with the specialist teams to ensure the safety of the service user.

A regulatory framework is needed to ensure that any company offering services to service users is trusted, trained and can supply court admissible reports. This framework needs to be regulated by an organisation such as the British Computer Society, with specialist training and regular updates to ensure compliance.

Tech now plays a part in every domestic abuse case in some way. The service users all have mobile devices, Wi-Fi networks, further training for everyone involved in the cases is needed to ensure that the safety of the service user is not compromised in any way.

The tech team are a small team who are providing an exceptional service, but further training, development, investment and interaction by the tech providers is needed, the sector needs to understand the consequences of the development of their products and the impact they can have. The world is constantly evolving, the on-demand society we all live in is a fascinating one, but we must always be mindful that not all innovations are

used for good, many can be used to facilitate abuse and we need to ensure that the domestic abuse service providers have the correct resources, have the funding, the interaction with the major tech companies and that the external agencies fully understand the implications of technology facilitated abuse.

This can only be achieved with a regulatory framework instigated through co-operation and investment by all parties, only then can caseworkers ensure the safety of the service users in their care and ensure that the trusted relationship continues between service user and caseworker by the continued development and training of all agencies involved.

References

- Christie, L., Wright, S. (2020). Technology and Domestic Abuse. Retrieved from <https://post.parliament.uk/technology-and-domestic-abuse/>
- PenzeyMoog, E., Slakoff, D. (2021) As Technology Evolves, so Does Domestic Violence: Modern Day Tech Abuse and Possible Solutions. Retrieved from <https://www.emerald.com/insight/content/doi/10.1108/978-1-83982-848-520211047/full/pdf>
- Yardley, E. (2020) Technology-Facilitated Domestic Abuse in Political Economy: A New Theoretical Framework. Retrieved from <https://journals.sagepub.com/doi/abs/10.1177/1077801220947172>
- Woodlock, D. (2016) 'Internet of Things': How Abuse is Getting Smarter. Retrieved from <https://journals.sagepub.com/doi/abs/10.1177/1077801216646277>
- Lopez-Neira, I., et al. (2019) The Abuse of Technology in Domestic Violence and Stalking. Retrieved from https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3350615
- Afrouz, R. (2021) The Nature, Patterns and Consequences of Technology-Facilitated Domestic Abuse: A Scoping Review. Retrieved from <https://journals.sagepub.com/doi/abs/10.1177/15248380211046752>
- Leitão, R. (2019) Technology-Facilitated Intimate Partner Abuse: a qualitative analysis of data from online domestic abuse forums. Retrieved from <https://www.tandfonline.com/doi/abs/10.1080/07370024.2019.1685883>
- Mayhew, J., Jahankhani, H. (2020) Current Challenges of Modern-Day Domestic Abuse. Retrieved from

https://link.springer.com/chapter/10.1007/978-3-030-50613-1_12

- Brown, C. et al. (2021) Technology-facilitated abuse in relationships: Victimization patterns and impact in young people. Retrieved from
<https://www.sciencedirect.com/science/article/abs/pii/S074756322100220X>
- Zweig, J., et al. (2013) Technology, Teen Dating Violence and Abuse, and Bullying. Retrieved from
<https://www.urban.org/research/publication/technology-teen-dating-violence-and-abuse-and-bullying>
- Stonard, K. (2020) Correlates of technology-assisted adolescent dating violence and abuse. Retrieved from
<https://wlv.openrepository.com/handle/2436/623275>
- Rethi, M. (2021) Awareness of Digital Abuse amongst College Students. Retrieved from
https://www.johnfoundation.com/wp-content/uploads/2022/01/EIJMRS_V3I3_53.pdf
- Stonard, K. (2018) Technology-Assisted Adolescent Dating Violence and Abuse: A Factor Analysis of the Nature of Electronic Communication Technology Used Across Twelve Types of Abusive and Controlling Behaviour. Retrieved from
<https://link.springer.com/article/10.1007/s10826-018-1255-5>
- Maclure, K., Jones, A. (2021) Domestic abuse and intimate partner violence: the role of digital by design.
<https://www.emerald.com/insight/content/doi/10.1108/JAP-03-2021-0009/full/html>

- Cuomo, D., Dolci, N. (2021) New tools, old abuse: Technology-Enabled Coercive Control (TECC). Retrieved from
<https://www.sciencedirect.com/science/article/abs/pii/S0016718521002360>
- Fitz-Gibbon, K., et al. (2018) Intimate Partner Violence, Risk and Security: Securing Women's Lives in a Global World. Retrieved from
https://books.google.co.uk/books?hl=en&lr=&id=T2NgDwAAQBAJ&oi=fnd&pg=PA52&dq=technology+domestic+abuse&ots=saOsn_urXS&sig=qObAZyZyAgAOo7D_50Pq0STeAWI&redir_esc=y#v=onepage&q=technology%20domestic%20abuse&f=false
- Dragiewicz, K., et al. (2018) Technology facilitated coercive control: Domestic violence and the competing roles of digital media platforms. Retrieved from
https://www.academia.edu/36283223/Dragiewicz_M_Burgess_J_Matamoras_Fern%C3%A1ndez_A_Salter_M_Suzor_N_P_Woodlock_D_and_Harris_B_2018_Technology_facilitated_coercive_control_Domestic_violence_and_the_competing_roles_of_digital_media_platforms_Feminist_Media_Studies_18_4_609_625
- Lee, K., Anderson, J. (2017) The internet and intimate partner violence. Retrieved from
<https://heinonline.org/HOL/LandingPage?handle=hein.journals/cjust31&div=30&id=&page=>
- Schrading, N., et.al (2015) An Analysis of Domestic Abuse Discourse on Reddit. Retrieved from
<https://aclanthology.org/D15-1309.pdf>

- Rocha-Silva, T., et al. (2021) Intimate abuse through technology: A systematic review of scientific Constructs and behavioral dimensions. Retrieved from <https://www.sciencedirect.com/science/article/abs/pii/S0747563221001849>
- Sugiura, L., et al. (2021) Computer Misuse as a Facilitator of Domestic Abuse. Retrieved from https://pure.port.ac.uk/ws/portalfiles/portal/50080933/Home_office_FINAL_report.pdf
- Hadeel, A. (2017) Technology-facilitated abuse: the new breed of domestic violence. Retrieved from <https://researchdirect.westernsydney.edu.au/islandora/object/uws:39434/>
- Stonard, K. (2015) “They’ll Always Find a Way to Get to You”: Technology Use in Adolescent Romantic Relationships and Its Role in Dating Violence and Abuse. Retrieved from <https://journals.sagepub.com/doi/abs/10.1177/0886260515590787>
- Doge, A., et al. (2018) Using Fake Video Technology To Perpetuate Intimate Partner Abuse. Retrieved from https://www.cpedv.org/sites/main/files/webform/deepfake_domestic_violence_advisory.pdf
- Southworth, C., et al. (2007) Intimate Partner Violence, Technology, and Stalking. Retrieved from <https://journals.sagepub.com/doi/abs/10.1177/1077801207302045>
- Brown, M., et al. (2018) Technology-Based Abuse: Intimate Partner Violence and the Use of Information Communication Technologies. Retrieved from

https://link.springer.com/chapter/10.1007/978-3-319-72917-6_11

- King-Ries, A. (2011) Teens, Technology, and Cyberstalking: The Domestic Violence Wave of the Future. Retrieved from <https://heinonline.org/HOL/LandingPage?handle=hein.journals/tjwl20&div=10&id=&page=>
- Lucero, J., et al. (2014) Exploring Gender Differences: Socially Interactive Technology Use/Abuse Among Dating Teens. Retrieved from <https://journals.sagepub.com/doi/abs/10.1177/0886109914522627>
- PenzeyMoog, E. (2020) Framework for Inclusive Safety. Retrieved from <https://www.theinclusivesafetyproject.com/>
- Yardley, E. (2020) Technology-Facilitated Domestic Abuse in Political Economy: A New Theoretical Framework. Retrieved from <https://journals.sagepub.com/doi/abs/10.1177/1077801220947172>
- Harris, B. (2021) Technology-enabled abuse: how 'safety by design' can reduce stalking and domestic violence. Retrieved from <https://eprints.qut.edu.au/226349/>
- Brown, C. (2021) Development and validation of the TAR Scale: A measure of technology-facilitated abuse in relationships. Retrieved from <https://www.sciencedirect.com/science/article/pii/S2451958821000075>
- Ramsay, N. (2019) Tech vs Abuse: Research Findings. Retrieved from <https://ncvc.dspacedirect.org/handle/20.500.11990/1747>
- Sun, C. (2015) Cyber abuse: Technology-facilitated stalking and abuse: Putting our legal framework to the test. Retrieved from

<https://search.informit.org/doi/abs/10.3316/informit.218289388705544>

- Cullen, O., et al. (2020) “Our Laws Have Not Caught up with the Technology”: Understanding Challenges and Facilitators in Investigating and Prosecuting Child Sexual Abuse Materials in the United States. Retrieved from <https://www.mdpi.com/2075-471X/9/4/28>
- Narakornpichit, J. (2020) Intervention Efforts Against Technology Abuse in Intimate Partner Violence. Retrieved from <https://ecommons.cornell.edu/handle/1813/70281>
- Godin, M. (2020) How Domestic Abusers Have Exploited Technology During the Pandemic. Retrieved from <https://time.com/5922566/technology-domestic-abuse-coronavirus-pandemic/>
- Fiolet, R., et al. (2021) Exploring the Impact of Technology-Facilitated Abuse and Its Relationship with Domestic Violence: A Qualitative Study on Experts’ Perceptions. Retrieved from <https://journals.sagepub.com/doi/full/10.1177/23333936211028176>
- Parry, J., Women’s Aid (2012) Digital stalking: A guide to technology risks for victims. Retrieved from https://www.womensaid.org.uk/wp-content/uploads/2015/11/Digital_Stalking_Guide_V2_Nov_2012.pdf
- UK Home Office (2011) Stalking consultation. Retrieved from <https://www.gov.uk/government/consultations/stalking-consultation>

- Williams, R., et al (2021) Exploring Rural and Regional Social Workers' Perceptions and Practices of Technology-Facilitated Domestic Abuse. Retrieved from
<https://www.tandfonline.com/doi/abs/10.1080/0312407X.2021.1985547>
- Messing, J., et al (2020) Intersections of Stalking and Technology-Based Abuse: Emerging Definitions, Conceptualization, and Measurement. Retrieved from
<https://link.springer.com/article/10.1007/s10896-019-00114-7>
- Kellam, A. (2019) Domestic Abuse during the UK's COVID-19 Lockdown: From Normal to New Normal and What Survivors' Experiences Might Teach Us. Retrieved from
<https://heinonline.org/HOL/LandingPage?handle=hein.journals/amcrae2019&div=43&id=&page=>
- White, N. (2019) Women, Domestic Violence Service Providers, and Knowledge of Technology-Related Abuse. Retrieved from
<https://www.proquest.com/openview/0b498918a25124d8aaec158fd8d1ee62/1?pq-origsite=gscholar&cbl=18750&diss=y>
- Tanczer, L., et al (2018) "Transforming the Response to Domestic Abuse" Government Consultation. Retrieved from
https://www.ucl.ac.uk/steapp/sites/steapp/files/domestic-violence-consultation_0.pdf
- Bland, M. (2020) Algorithms Can Predict Domestic Abuse, But Should We Let Them? Retrieved from
https://link.springer.com/chapter/10.1007/978-3-030-50613-1_6

- Vigurs, C., et al (2016) Police Initial Responses to Domestic Abuse. Retrieved from
https://whatworks.college.police.uk/Research/Documents/Police_initial_responses_domestic_abuse.pdf
- Hopkins, S., Ostini, J. (2015) Digitized domestic violence: technology abuse is a feminist issue. Retrieved from
<https://eprints.usq.edu.au/28147/>
- Bridget, H., et al (2021) Technology abuse of women with intellectual disability. Retrieved from
<https://eprints.qut.edu.au/212936/>
- Matthews, T., et al (2017) Stories from Survivors: Privacy & Security Practices when Coping with Intimate Partner Abuse. Retrieved from
https://mshelt.onl/p/matthews_et_al_2017.pdf
- Seewald, L., et al (2022) Technology-Facilitated Abuse Prevalence and Associations Among a Nationally Representative Sample of Young Men. Retrieved from
<https://www.annfammed.org/content/20/1/12.abstract>
- Tanczer, L., et al (2021) 'I feel like we're really behind the game': perspectives of the United Kingdom's intimate partner violence support sector on the rise of technology-facilitated abuse. Retrieved from
<https://www.ingentaconnect.com/content/tpp/jgbv/2021/00000005/00000003/art00005>
- Harris, B., Dragiewicz, M (2019) Migrant women are particularly vulnerable to technology-facilitated domestic abuse. Retrieved from

<https://eprints.qut.edu.au/131201/>

- Woodlock, D., Webster, A (2013) Smartsafe and the abuse of technology.
Retrieved from
<https://search.informit.org/doi/abs/10.3316/informit.331110455273090>
- Chadwick, C. (2012) The role of information security in Domestic Abuse: A call to Action. Retrieved from
<http://cs.lewisu.edu/mathcs/msisprojects/papers/cindychadwick.pdf>
- Al-Alosi, H. (2018) Strategies used to tackle technology-facilitated abuse in the domestic violence context. Retrieved from
<https://researchdirect.westernsydney.edu.au/islandora/object/uws:46845/>
- Leitão, R. (2019) Anticipating Smart Home Security and Privacy Threats with Survivors of Intimate Partner Abuse. Retrieved from
<https://dl.acm.org/doi/abs/10.1145/3322276.3322366>
- Padhiar, D. (2017) An investigation into the use of mobile applications to better aid in the identification of domestic abuse and in the support of victims. Retrieved from
<https://repository.cardiffmet.ac.uk/handle/10369/8748>
- Kam, K. (2020) The New Domestic Violence: technology Abuse. Retrieved from
<https://www.webmd.com/mental-health/news/20201130/the-new-domestic-violence-technolog-abuse>
- IBM (2020) Five Technology Design Principles to Combat Domestic Abuse.
Retrieved from
<https://www.ibm.com/blogs/policy/design-principles-to-combat-domestic-abuse/>

- Lee, L. (2019) Domestic abuse – Is technology part of the problem or solution?
Retrieved from
<https://reasondigital.com/blog/domestic-abuse-is-technology-part-of-the-problem-or-solution/>
- Women's Aid (2021) Online and digital abuse. Retrieved from
<https://www.womensaid.org.uk/information-support/what-is-domestic-abuse/onlinesafety/>
- Thomas, D. (2003) A General Inductive Approach for Qualitative Data Analysis.
Retrieved from
https://www.researchgate.net/publication/228620846_A_General_Inductive_Approach_for_Qualitative_Data_Analysis
- Saunders, M., et al. (2015) Understanding research philosophy and approaches to theory development. Retrieved from
<http://oro.open.ac.uk/53393/>
- Braun, V., Clarke, V (2006). Using thematic analysis in psychology. Retrieved from
<https://www.tandfonline.com/doi/abs/10.1191/1478088706qp063oa>

Appendix A – Participant Sheet

Dear Participant:

My name is Alan Owen and I am studying an MBA at University of Wales Trinity Saint David. You also know me as the tech advisor at Refuge and the Data Protection Consultant.

I would like to invite you to participate in my research project. This project will provide an investigation into how advancements in technology have had a major impact on Domestic Abuse service provisions in the United Kingdom and aims to provide evidence to support a need for technology companies to consider Domestic Abuse as they develop their applications.

This semi-structured interview has been developed by myself which will assess your views of the current state of the service provision for Technology Facilitated Abuse and how service provision has evolved to cope with the new advancements. I believe your opinions will be extremely helpful to me.

Through your participation in the interviews, I hope to ascertain that providers need to consider a standard framework of any software or hardware development.

All interviews will be kept strictly confidential to the researchers involved and at NO time will individual interviews be released to the public. This gives you a chance to express your views in a confidential and anonymous way and still be able to make a difference. Your participation in this study is completely voluntary so you can withdraw from the interviews at any stage.

Our interview should take about 30 - 45 minutes to complete, but there is no time constraint. There are also no right or wrong answers. We understand that your time is at a premium, but your opinions are very valuable to us.

After careful and precise analysis of the data obtained from this interview, I will be happy to provide you with a copy of the findings at your request. The results of this interview will hopefully enhance my understanding of the service provision and the impact of technology advancements and will be stored on Office 365. The results of the research will be used within my dissertation.

This data will only be shared with the University of Wales Trinity Saint David. Once the dissertation has been submitted and accepted, the data will be erased. Data will be stored on Office 365 and stored anonymously. No personal identifiable information will be stored to indicate any details of the participant.

We thank you in advance for your time and participation. If any questions do arise, feel free to contact me at your convenience by email - 1911640@student.uwtsd.ac.uk or via telephone 07900 788215.

Declaration

I understand that my interview will be used for research purposes and solely for the purpose of the Dissertation of Alan Owen for his MBA at University of Wales Trinity Saint David.

This data will only be shared with the University of Wales Trinity Saint David. Once the dissertation has been submitted and accepted, the data will be erased. Data will be stored on Office 365 and stored anonymously. No personal identifiable information will be stored to indicate any details of the participant.

I understand that I can withdraw my consent at any time.

Name Date

Appendix B – Interview Questions

12. Can you explain your role within the domestic abuse service?
13. What is your experience of Technology Facilitated Abuse (TFA)?
14. Are you struggling to keep pace with tech developments, new devices and the apps available and how do you think these developments could be communicated to service providers? What challenges are you experiencing?
15. Do you believe that service users are struggling to keep pace with technology and the advancements in software and hardware?
16. What impact do think technology has had on the service users and how has this impacted their safety? (Is TFA increasing?)
17. Has your approach to service users differed since technology is being used for domestic abuse?
18. Do you believe that your current processes are adequate?
19. Do you believe that software and hardware developers are designing their products with Domestic Abuse in mind and that more could be undertaken? (Apple, Amazon, Google, Microsoft etc.)
20. Many Domestic Abuse applications available on the app stores have been developed with safety in mind. Do you believe these help or hinder the safety of survivors?
21. What is your experience of training provision for service providers, and do you believe they are adequate?
22. Do you have access to the actual technology in order for you to analyse and interrogate the actual equipment?
23. Any further comments which you feel would be beneficial to this study?

Appendix C – Ethics Form



PG2 / E1 FORM

APPLICATION FOR ETHICAL APPROVAL

In order for research to result in benefit and minimise risk of harm, it must be conducted ethically. A researcher may not be covered by the University's insurance if ethical approval has not been obtained prior to commencement.

The University follows the OECD Frascati manual definition of **research activity**: "creative work undertaken on a systematic basis in order to increase the stock of knowledge, including knowledge of man, culture and society, and the use of this stock of knowledge to devise new applications". As such this covers activities undertaken by members of staff, postgraduate research students, and both taught postgraduate and undergraduate students working on dissertations/projects.

The individual undertaking the research activity is known as the "principal researcher".

Ethical approval is not required for routine audits, performance reviews, quality assurance studies, testing within normal educational requirements, and literary or artistic criticism.

Please read the notes for guidance before completing ALL sections of the form.

This form must be completed and approved prior to undertaking any research activity. Please see Checklist for details of process for different categories of application.

SECTION A: About You (Principal Researcher)

Full Name:	Alan John Owen				
Tick all boxes which apply:					
Member of staff:	☐	Student:	☒	Honorary research fellow:	☐

Faculty/School/Centre:	
Campus:	Carmarthen
E-mail address:	1911640@student.uwtsd.ac.uk
Contact Telephone Number:	07900788215

For students:			
Student Number:	1911640	Undergraduate	☐
Programme of Study:	MBA	Taught Postgraduate	☐
Director of Studies/Supervisor:	Dr Anthony Burns	Research	☐

SECTION B: Approval for Research Activity

Has the research activity received approval in principle? (please check the Guidance Notes as to the appropriate approval process for different levels of research by different categories of individual)		YES	☐	NO	☒
					Date
If Yes, please indicate source of approval (and date where known):	Research Degrees Committee		☐		
	Faculty Research Committee		☐		
	Other (write in)		☐		

Approval in principle **must** be obtained from the relevant source prior to seeking ethical approval.

SECTION C: External Ethical Guidance Materials

Please list the core ethical guidance documents that have been referred to during the completion of this form (including any discipline-specific codes of research ethics, and also any specific ethical guidance relating to the proposed methodology). Please tick to confirm that your research proposal adheres to these codes and guidelines.	
	☐
	☐
	☐

SECTION D: External Collaborative Research Activity

Does the research activity involve collaborators outside of the University?	YES	☐	NO	☒
If Yes, please provide the name of the external organisation and name and contact details for the main contact person:				
Institution				
Contact person name				
Contact person e-mail address				

Where research activity is carried out in collaboration with an external organisation

Does this organisation have its own ethics approval system?	YES	☐	NO	☐
If Yes, please attach a copy of any final approval (or interim approval) from the organisation				

SECTION E: Details of Research Activity

Indicative title:	How advancements in technology have had a major impact on Domestic Abuse service provisions in the United Kingdom.		
Proposed start date:	March 2022	Proposed end date:	August 2022
Purpose of research activity (including aims and objectives) Outline the purpose, aims and objectives of the research activity, including key research questions. Show briefly how existing research has informed the proposed activity and explain what the research activity will add and how it addresses an area of importance. (Maximum 300 words) To determine whether global digital innovations have impacted the provision of Domestic Abuse services in the United Kingdom. • To critically review the relevant literature surrounding how digital innovations are impacting Domestic Abuse services globally. • To conduct semi-structured interviews with caseworkers to determine how the services are evolving and the dangers involved with digital innovation. • To make recommendations of how digital innovations can be controlled to ensure the safety of service clients. I currently work with the largest independent Domestic Violence charity in the UK, Refuge. They provide specialist support to women, children and some men escaping domestic violence and other forms of violence. Refuge's specialist services include refuges, independent advocacy, community outreach projects, culturally specific services and the 24-hour National Domestic Abuse Helpline. Refuge's award-winning campaigns aim to raise awareness of domestic violence and prevent it from happening. Refuge produces research into the effects of domestic violence and other forms of violence, the issues surrounding service provision and how society responds to violence against women and girls. In 2019, Refuge developed a specialist Tech Team which provide advice and guidance on the developments of technology and how they impact the safety of individuals escaping domestic abuse. I am an advisor to the team and work closely with them. This research will benefit all providers of support for domestic abuse to ensure that their awareness levels of the new advancements in technology leads to extra provision to help keep the survivors safe. (this box should expand as you type)			
Proposed methods Provide a brief summary of all the methods that may be used in the research activity, making it clear what specific techniques may be used. If methods other than those listed in this section are deemed appropriate later, additional ethical approval for those methods will be needed. (Maximum 600 words)			

Our primary research method will be qualitative structured questions and interviews with the members of the tech team and other frontline case workers who perform front line services to survivors of domestic abuse.

It is envisaged that 15 people will be selected to receive a questionnaire and interviewed. Interviews will be undertaken using Microsoft Teams and recorded. This will allow the interviews to be conducted around their working environment, as the nature of the work means that emergency situations do arise. Each participant is part of the tech team or involved in providing frontline services to survivors of domestic abuse. Each caseworker will be given the option to not participate in the study.

The caseworkers and tech team members are employees of Refuge.

Further research will be undertaken using the 'SafeLives' methodologies and comparing it to the USA and their SafetyNet program.

We will also compare the different approaches to online education through videos and guides and Livechat functions.

The interviews and questionnaires will need to be handled whilst these case workers are involved in 'live' cases and are dealing with survivors every day.

We must ensure that sufficient time is given to allow for the interviews and questionnaires as the safety of the service user and safeguarding must take a priority.

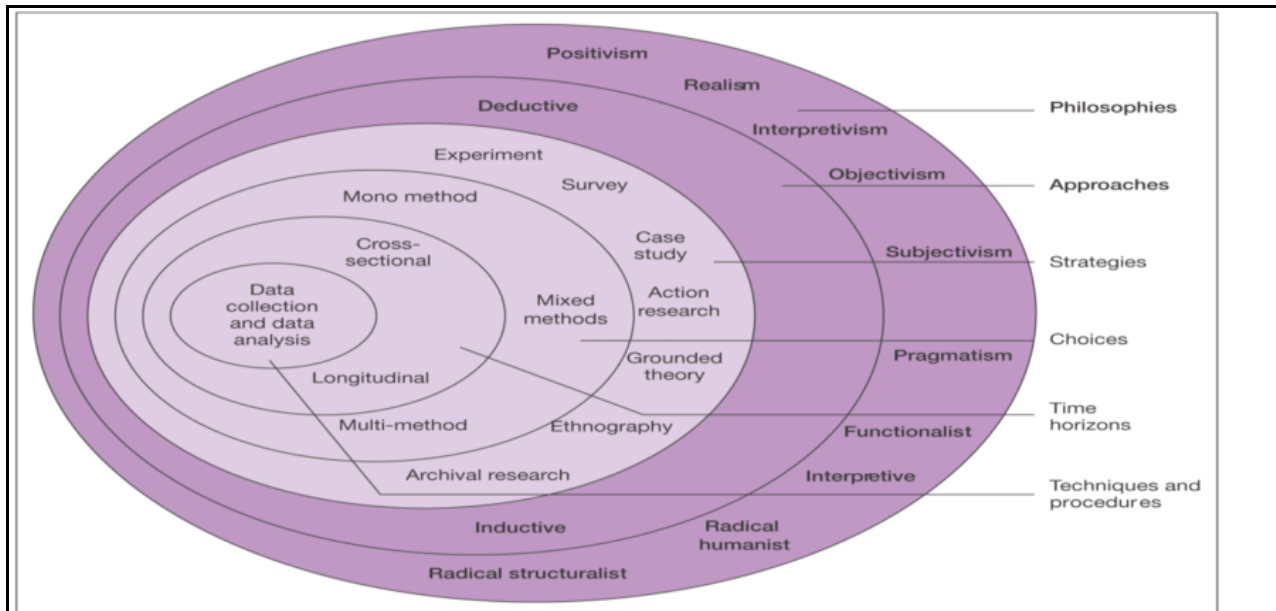
Data will be collected using a qualitative approach to ensure that actual cases can be analysed. Individual experiences are extremely important. The interview will consist of structured and unstructured questions which will be open ended. Each interview will be recorded to ensure that the interviews capture all aspects of the problems faced by the caseworkers. Using a deductive approach to Analysing and presenting data (Burnard, P 2008)

The participants are all female (this is due to the service provision provided by the organisation).

There is already an interest across the tech team and the management, but we must ensure that at any time, an interview could be interrupted or re-scheduled. Each participant will be asked to sign a participation form to read and sign, with a copy retained by the participant.

Literature is available from all over the world, and different cultures across the world must be considered. Many different religions and cultures have different views on marriage and domestic abuse. We will be limiting the research to the United Kingdom and the provision of the domestic abuse services provided by Refuge.

The findings will be broken down using the Saunders Research Onion, this model is used by researchers for preparing research methodology. (Saunders, et al. 2015)



Using an objectivism approach and the qualitative data analysis from the interviews. Using a deductive path to discover how the service provision has evolved to keep pace with the technology and how it continues to evolve to keep pace with new developments, I will take into consideration personal opinions.

Using surveys, case studies and grounded theory, the data collected can be analysed using the mono-method approach for the qualitative data collected.

From the interviews, the data will be collected at a specific point in time, the advancements in technology mean that the problem of security for domestic abuse survivors is constantly changing. Therefore, I will be using the cross-sectional approach. We will be concentrating on the last 10 years of technological advancement and how this has impacted the service provision.

(this box should expand as you type)

Location of research activity Identify all locations where research activity will take place.
Llanddarrog, Carmarthen. All research is being conducted remotely. (this box should expand as you type)
Research activity outside of the UK If research activity will take place overseas, you are responsible for ensuring that local ethical considerations are complied with and that the relevant permissions are sought. Specify any local guidelines (e.g. from local professional associations/learned societies/universities) that exist and whether these involve any ethical stipulations beyond those usual in the UK (provide details of any licenses or permissions required). Also specify whether there are any specific ethical issues raised by the local context in which the research activity is taking place, for example, particular cultural sensitivities or vulnerabilities of participants.
(this box should expand as you type)

SECTION F: Scope of Research Activity

Will the research activity include:	YES	NO
Use of a questionnaire or similar research instrument?	☒	☐
Use of interviews?	☒	☐
Use of diaries?	☐	☒
Participant observation with their knowledge?	☐	☒
Participant observation without their knowledge?	☐	☒
Use of video or audio recording?	☒	☐
Access to personal or confidential information without the participants' specific consent?	☐	☒
Administration of any questions, test stimuli, presentation that may be experienced as physically, mentally or emotionally harmful / offensive?	☐	☒
Performance of any acts which may cause embarrassment or affect self-esteem?	☐	☒
Investigation of participants involved in illegal activities?	☐	☒
Use of procedures that involve deception?	☐	☒
Administration of any substance, agent or placebo?	☐	☒
Working with live vertebrate animals?	☐	☒

Other primary data collection methods, please explain in this box	☐	☒
---	--------------------------	-------------------------------------

If NO to every question, then the research activity is (ethically) low risk and **may** be exempt from **some** of the following sections (please refer to Guidance Notes).

If YES to any question, then no research activity should be undertaken until full ethical approval has been obtained.

SECTION G: Intended Participants

Who are the intended participants:	YES	NO
Students or staff at the University?	☐	☒
Adults (over the age of 18 and competent to give consent)?	☒	☐
Vulnerable adults?	☐	☒
Children under 18?	☐	☒
Prisoners?	☐	☒
Young offenders?	☐	☒
Those who could be considered to have a particularly dependent relationship with the investigator or a gatekeeper?	☐	☒
People engaged in illegal activities?	☐	☒
Others (please identify):	☐	☒

Participant numbers and source Provide an estimate of the expected number of participants. How will you identify participants and how will they be recruited? 15 – Caseworkers employed in Domestic Abuse service provision in the United Kingdom. All female, all over 18. this box should expand as you type)

Information for participants:	YES	NO	N/A
Will you describe the main research procedures to participants in advance, so that they are informed about what to expect?	☒	☐	☐
Will you tell participants that their participation is voluntary?	☒	☐	☐
Will you obtain written consent for participation?	☒	☐	☐
Will you explain to participants that refusal to participate in the research will not affect their treatment or education (if relevant)?	☐	☐	☒
If the research is observational, will you ask participants for their consent to being observed?	☐	☐	☒

Will you tell participants that they may withdraw from the research at any time and for any reason?	☒	☐	☐
With questionnaires, will you give participants the option of omitting questions they do not want to answer?	☒	☐	☐
Will you tell participants that their data will be treated with full confidentiality and that, if published, it will not be identifiable as theirs?	☒	☐	☐
Will you debrief participants at the end of their participation, in a way appropriate to the type of research undertaken?	☒	☐	☐
If NO to any of above questions, please give an explanation			
(this box should expand as you type)			

Information for participants:	YES	NO	N/A
Will participants be paid?	☐	☒	☐
Is specialist electrical or other equipment to be used with participants?	☐	☒	☐
Are there any financial or other interests to the investigator or University arising from this study?	☐	☒	☐
Will the research activity involve deliberately misleading participants in any way, or the partial or full concealment of the specific study aims?	☐	☒	☐
If YES to any question, please provide full details			
(this box should expand as you type)			

SECTION H: Anticipated Risks

Outline any anticipated risks that may adversely affect any of the participants, the researchers and/or the University, and the steps that will be taken to address them.
Risks to participants
For example: emotional distress, financial disclosure, physical harm, transfer of personal data, sensitive organisational information
As the caseworkers are working in this field every day, there is no anticipated risks to the participants. (this box should expand as you type)
If research activity may include sensitive, embarrassing or upsetting topics (e.g. sexual activity, drug use) or issues likely to disclose information requiring further action (e.g. criminal activity), give details of the procedures to deal with these issues, including any support/advice (e.g. helpline numbers) to be offered to participants. Note that where applicable, consent procedures should make it clear that if something potentially or actually illegal is discovered in the course of a project, it may need to be disclosed to the proper authorities
Participants are highly trained domestic abuse advocates, full support is given by their employer to ensure that their needs are met. (this box should expand as you type)
Risks to investigator
For example: personal safety, physical harm, emotional distress, risk of accusation of harm/impropriety, conflict of interest
I am working with Refuge on data protection issues, so I already exposed to their systems and methods. (this box should expand as you type)
University/institutional risks
For example: adverse publicity, financial loss, data protection
None (this box should expand as you type)
Adverse outcomes
List measures put in place to limit any adverse effects or outcomes of research activity where appropriate. Include any emergency protocols.

No personal identifiable data (PID) will be disclosed, not information relating to specific cases will be divulged during this research. If for any reason PID is disclosed, this will be erased from any video and will not form part of any transcript.

(this box should expand as you type)

Disclosure and Barring Service

If the research activity involves children or vulnerable adults, a Disclosure and Barring Service (DBS) certificate must be obtained before any contact with such participants.

YES

NO

N/A

Has a DBS certificate been obtained?

☐

☐

☒

SECTION I: Feedback, Consent and Confidentiality

Feedback

What feedback will be provided to participants, how will this be done and when?

A full copy of the dissertation will be made available to them. A follow-up meeting of all participants will be undertaken via Microsoft Teams to provide feedback on the findings of the research.

(this box should expand as you type)

Informed consent

Describe the arrangements to inform potential participants, before providing consent, of what is involved in participating. Describe the arrangements for participants to provide full consent before data collection begins. If gaining consent in this way is inappropriate, explain how consent will be obtained and recorded.

Each participant will be provided with a consent form which will detail the requirements and how the data provided will be stored, how it will be anonymised and used and how long the raw data will be stored. All participants must sign the consent form to be able to take part in the research, they will not be included in any part of the research unless we have informed consent.

(this box should expand as you type)

Confidentiality / Anonymity

Set out how anonymity of participants and confidentiality will be ensured in any outputs. If anonymity is not being offered, explain why this is the case.

No names of caseworkers will be divulged as part of the dissertation, the caseworkers names and job titles will remain anonymous. Each caseworker will be given an assigned letter (Caseworker A, B etc) so that their identities can remain confidential.

Full anonymity is essential in this case.

(this box should expand as you type)

SECTION J: Data Protection and Storage

In completing this section refer to the University's Research Data Management Policy and the extensive resources on the University's Research Data Management web pages (<http://uwttd.ac.uk/library/research-data-management/>).

	YES	NO
Does the research activity involve personal data (as defined by the Data Protection Act)?	☐	☒
If YES, provide a description of the data and explain why this data needs to be collected:		
 (this box should expand as you type)		
Does it involve sensitive personal data (as defined by the Data Protection Act)?	☐	☒
If YES, provide a description of the data and explain why this data needs to be collected:		
 (this box should expand as you type)		

Will the research activity involve any of the following activities:	YES	NO
Electronic transfer of data in any form?	☒	☐
Sharing of data with others at the University?	☐	☒
Sharing of data with other organisations?	☐	☒
Export of data outside the European Union or importing of data from outside the UK?	☐	☒
Use of personal addresses, postcodes, faxes, emails or telephone numbers?	☐	☒
Publication of data that might allow identification of individuals?	☐	☒
Use of data management system?	☐	☒
Data archiving?	☐	☒
If YES to any question, please provide full details, explaining how this will be conducted in accordance with the Data Protection Act (and/or any international equivalent):		
 Interviews will be recorded via Microsoft Teams. These recordings will be stored during the dissertation process on a secure hard disk, accessible via a pin code only. Once the dissertation is completed and has been accepted, the interviews will be securely destroyed.		

It is anticipated that the information relating to the interviews will be held for a period of 8-10 months (depending on the interview date) and then destroyed.

Questionnaires will be sent in Word format to be completed via email. These will be stored on the secure hard disk, protected by a pin code.

(this box should expand as you type)

Will the research activity involve storing personal data on one of the following:	YES	NO
Manual files (i.e. in paper form)?	☐	☒
University computers?	☐	☒
Private company computers?	☐	☒
Home or other personal computers?	☐	☐
Laptop computers/ CDs/ Portable disk-drives/ memory sticks?	☒	☐
"Cloud" storage or websites?	☐	☒
Other – specify:	☐	☐

For all stored data, explain the measures in place to ensure data confidentiality, including details of password protection, encryption and anonymisation:

All recordings and questionnaires (in word format) will be stored on a pin protected external hard disk. The pin code is only known to myself.

(this box should expand as you type)

List all who will have access to the data generated by the research activity:

Only myself

(this box should expand as you type)

List who will have control of, and act as custodian(s) for, data generated by the research activity:

Only myself

(this box should expand as you type)

Give details of data storage arrangements, including where data will be stored, how long for, and in what form. Will data be archived – if so how and if not why not.

All questionnaires and recordings of interviews will be erased from the external hard disk after approval of the dissertation.

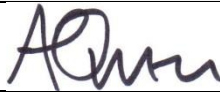
(this box should expand as you type)

SECTION K: Declaration

The information which I have provided is correct and complete to the best of my knowledge. I have attempted to identify any risks and issues related to the research activity and acknowledge my obligations and the rights of the participants.

In submitting this application I hereby confirm that I undertake to ensure that the above named research activity will meet the University's [Research Ethics and Integrity Code of Practice](#)

Signature of applicant:



Date: 24/02/2022

For students:

Director of Studies/Supervisor:	Anthony Burns
Signature:	<i>A. Burns</i>
Date:	24/02/2022

For staff:

Head of School/Assistant Dean:	
Signature:	
Date:	

Checklist: Please complete the checklist below to ensure that you have completed the form according to the guidelines and attached any required documentation:

☒	I have read the guidance notes supplied before completing the form.
☒	I have completed ALL RELEVANT sections of the form in full.
☐	I confirm that the research activity has received approval in principle
☐	I have attached a copy of final/interim approval from external organisation (where appropriate)
☒	I understand that it is my responsibility to ensure that the above named research activity will meet the University's Research Ethics and Integrity Code of Practice.
☒	I understand that before commencing data collection all documents aimed at respondents (including information sheets, consent forms, questionnaires, interview schedules etc.) must be confirmed by the DoS/Supervisor, module tutor or Head of School.

RESEARCH STUDENTS AND STAFF ONLY

All communications relating to this application during its processing must be in writing and emailed to pgresearch@uwtsd.ac.uk, with the title 'Ethical Approval' followed by your name.

You will be informed of the outcome of your claim by email; therefore **it is important that you check your University and personal email accounts regularly.**

STUDENTS ON UNDERGRADUATE OR TAUGHT MASTERS PROGRAMMES should submit this form (and receive the outcome) via systems explained to you by the supervisor/module leader.

This form is available electronically from the Academic Office web pages:

<http://www.uwtsd.ac.uk/academic-office/>

Application Process

All staff research projects and all research students must submit the Ethical Approval Form to the **University Ethics Committee** via the Postgraduate Research office (pgresearch@uwtsd.ac.uk). Staff research directly in relation to personal study for taught undergraduate or Masters programmes should be submitted via the Faculty procedures explained below.

Taught masters and taught undergraduate research Ethical Approval Forms are considered **within Faculties**. Faculties will provide details of the specific processes for this. Where the Ethical issues within any single ethical application are of particular concern the Faculty will refer these to the University Ethics Committee. Any student activity that involves the collection of primary data needs to undergo Ethical approval, this includes assignment work as well as dissertations.

Notes for guidance in completion of this form

Section A: About You

Please complete all relevant sections

Section B: Approval for research activity

Research proposals must be approved in principle before applying for Ethical Approval. The proposal approval only becomes final when the ethical approval is received.

The process for proposal approval varies according the individual and programme of study:

- Research students, by application on form PG1 to the Research Degrees Committee
- Taught students by review of research proposal within Faculties (Faculties provide specific details of these processes)
- Staff, by agreement by the Head of School/Assistant Dean

Section C: External Ethical Guidance materials

Many discipline areas are required to operate with the discipline specific codes of research ethics (for example health, psychology, education etc.), any such codes must be listed and you must tick to confirm that you have consulted with these.

Section D: External Collaborative Research Activity

Provide details of the external collaborative partners, where appropriate you might want to submit a copy of the external collaboration agreement with the Ethical Approval Form. If the partner requires the research to be subject to its own internal Ethical approval process then please provide details of that process and a copy of any final (or interim) approvals received from the organisation.

Section E: Details of Research Activity

Remember that the individuals reviewing this Ethical Approval Form may not have seen your research proposal, and also may not be experts in the specific area of your research. The information provided should therefore be jargon free and clearly stated.

Indicative Title: please use the same title as used on the research proposal.

Purpose: the Ethical approval process will want to ensure that the methods you propose are adequate and appropriate to address the research aims and objectives. Excessive additional data collection can be seen as unethical.

Proposed Methods: the Ethical approval process seeks to ensure that you understand the methods that are intended, and that the implementation of those methods will be appropriate and without unnecessary impact on respondents. Please be specific.

Location: this needs to mention geographical location and also local situation (for example, within Local Authority Offices in Cardiff, using a private room but close to other individuals). If you are collecting data within an organisational setting then you need to explain the permissions that you have obtained to do this.

Research Activity outside of the UK: please complete this section in detail, and note any guidance you have received. Also describe your own familiarity (or not) with the location that you will be utilising.

Section F: Scope of Research Activity

Please tick ALL of the research activities that might be undertaken. If any additional types of activity are intended then please add an extra box and describe these.

If you have answered no to all questions in F then sections G and J do not need to be completed. Section H should be considered, and may be completed. Signatures are still required in section K.

Section G: Intended Participants

Please tick all categories that might apply.

Numbers & Source: if you are using a series of different methods or research activities please list numbers for each stage/phase. Be clear about how you will find respondents. Will you use intermediaries, and if so how? How will you ensure compliance with your sampling strategy?

Information for participants: all participants should be appropriately informed about the research, what is expected of them and what will happen to the information that they provide. The Ethical review process does not ask to see this documentation, but requires this to be reviewed and approved by the Director of Studies in the case of research students, the supervisor/module

tutor in relation to students on taught programmes and the Head of School/Assistant Dean in relation to staff research.

Section H: Anticipate Risks

All research carries some level of risk. The answers you provide to questions in this section will be reviewed to ensure that you have an appropriate understanding of the type of risks involved and how you can mitigate against these risks.

Risk to participants Think very carefully about how your actions/questions/discussions might affect the people you are involving as participants. You might identify the risk as small but it would still be a risk. Many types of question have the potential to make respondents less content with their life / job; you need to recognise and try to ameliorate any such effects. If these are business owners, time with you may reduce profit.

In some locations physical risk is very real to both participants and yourself, please consider this.

Risk to you, the researcher Think about where you will meet people, if there are any dangers involved in the location. If you are meeting people as individuals think about using a public place. In general do not visit people in their own homes or remote locations. If you are talking to individuals about certain issues think about how their responses might affect you emotionally. What about the risk of collecting insufficient data?

Risk to the University When undertaking your research, you are acting as a member of the University (student or staff). Professionalism is important, so it is important to be well organised and well prepared. Punctuality, clarity etc. are all part of this. What will you do to ensure this? You must ensure you do not harm the good name of the University in any way and do nothing to undermine the reputation of the research it conducts and sponsors. Upholding high standards of conduct and integrity are vital in this regard. You must also conduct the research in such a way to minimise the potential for claims of negligence made against the University, its researchers and any collaborating individual or organisation. In this respect you should always comply with ethical, legal and professional frameworks, obligations and standards as required by statutory and regulatory authorities, as well as the university's Research Integrity and Ethics Code of Practice. Research misconduct in this respect can take many forms, including:

- fabrication: making up results or other outputs (eg, artefacts) and presenting them as if they were real
- falsification: manipulating research processes or changing or omitting data without good cause
- plagiarism: using other people's material without giving proper credit
- failure to meet ethical, legal and professional obligations: for example failure to declare competing interests; misrepresentation of involvement or authorship; misrepresentation of interests; breach of confidentiality; lack of informed consent; misuse of personal data; and abuse of research subjects or material
- improper dealing with allegations of misconduct: failing to address possible infringements such as attempts to cover up misconduct and reprisals against whistle-blowers

Adverse Outcomes. Think carefully about the possibilities, and cover here

Section I: Feedback, Consent and Confidentiality

Feedback to participants: outline your approach. Will interview transcripts be shared with respondents to check accuracy? Will summaries of questionnaire analysis be made available to respondents in some way? Will an overview report be provided? How and when?

Informed consent: Draft letter / e-mail / or heading (or footer) section of questionnaire must be approved by DoS/supervisor (if research student), supervisor/module tutor if taught student, or Head of School / Assistant Dean if a member of staff.

Confidentiality/Anonymity. Explain clearly how you will ensure confidentiality and anonymity.

Section J: Data Protection and Storage

Before completing this section it is necessary to read the University's Research Data Management information. The questions that follow are designed to ensure compliance with the Data Protection Act as well as established research protocols.

Many research activities will involve electronic transfer of data and use of data management systems in the summarisation and analysis of data. You will need to explain these in relation to compliance with the Data Protection Act.

Think carefully about who will have access to your data, this will include supervisors and examiners. Also that a thesis will be made available via the University library and the British Library system. If you are seeking an access bar for a period of time after completion then mention it here. If you will provide a copy of your findings, or intend to give a presentation, to a facilitating/ supporting/accessing organisation then explain that in this section. But also think about the general principle of data sharing, as explained in the Research Data Management information.

In terms of storage of data please ensure security, and also mitigate against loss of data.

Section K: Declaration

Ensure the appropriate countersignatures have been provided

Look carefully at the checklist and ensure that you comply with and tick all that are relevant to your research.