

16**Technology and POCSO Crimes: Developing Legal Responsiveness to Child Exploitation in India****Shaju V. M.^{1*} & Dr. Arti²**¹Research Scholar in Law Desh Bhagat University, Mandi Gobind Garh, Punjab.²Assistant Professor in Desh Bhagat University, Mandi Gobind Garh, Punjab.

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Abstract

The Protection of Children from Sexual Offences (POCSO) Act (2012) depicts an important comprehensive legal framework in India for addressing child sexual crimes against children. However, the digital advancement has given the prolific transformation in social, economic and educational arenas, it has fundamentally altered the landscape of child exploitation beyond boundaries of countries. The technology-facilitated crimes open up unprecedented challenges and solutions rather than the traditional mechanisms. This paper analyses the intersection of emerging technologies and POCSO crimes in India, offering simultaneously the innovative solutions for detection, investigation and prevention. This paper has taken an interdisciplinary analysis and combined legal doctrine, technological capabilities, empirical data from Indian Judicial studies, and primary survey research on young people's technology acceptance patterns. Thus, the research identifies critical gaps in current POCSO implementation and further proposes technology-enhanced frameworks for improving legal responsiveness to digital exploitation. A comprehensive survey of 677 young people from various districts in Kerala through a customized TAM- based questionnaire by Fred D. Davis (1989) as per the formula (Slovin, 1960) Multiple Regression Analysis (MRA) reveals that Perceived Ease of Use (PEU) and Perceived Usefulness (PU) by Davies (1989) importantly influence responsiveness toward reporting POCSO crimes. It is a predictive model with the R^2 value exceeding 80% while demographic moderating variables, profession, age and gender show a very minimal differential effect. The location is having a slight differential effect. The study brings out the importance of legal responsiveness through AI assisted detection, automated reporting systems and enhanced digital forensic techniques to protect the children, the future of the nation in the digital age. In other words, legal literacy and protection is possible only through digital literacy in the modern world.

Keywords: POCSO Act, Child Protection, Digital Crimes, Technology Acceptance Model, Technology-Assisted Investigation.

Introduction

The Protection of Children from Sexual Offences (POCSO) Act, (2012), is an important shift in the process of law of the protection of the children, the most vulnerable section of the society. It is a comprehensive framework particularly designed for addressing sexual issues against children by Ministry of Women and Child Development (2012). However, the rapid growth of digitalization in Indian society has created a lot of challenges, giving multiple options for the exploitation of children at home, in neighbourhoods and in institutions. It challenges the traditional assumptions, keeping the space for further improvement in the POCSO Act cited by Kaur, M., & Singh, P. (2020). Thus, the digital technologies, while offering a lot of scope for the best education, communication and development, leave simultaneously other sophisticated forms of child exploitation. Further, the gravity of the challenges is increased due to the extended nature of transcending the geographical boundaries and growing the child exploitation in an undisclosed manner.

An important study was conducted by the Ministry of Women and Child Development (2007) in collaboration with UNICEF, Save the Children and PRAYAS examined child abuse across 13 states in India and they had taken a sample size of 12,447 children. The fact findings exposed that with 53% of children reporting having experienced one or more forms of sexual abuse. The children constitute approximately 41% of India's total population of 1.38 billion people. This translates to roughly 50-53 crore children national wide. When it is applied to the global context, where children making 17% of the world's population, this finding refers that approximately 25 crore children in India may be experiencing child sexual abuse. It points out the urgent need for comprehensive child protection measures and policy legislations as presented by Ministry of Women and Child Development (2007).

The POCSO Act is a comprehensive law developed to provide protection to the children from sexual offences such as sexual assault, sexual harassment with a difference of aggravated or non-aggravated way and pornography. Child sexual abuse involves each of the acts, whether physical or non-physical, when committed against a child below 18 years of age. The Protection of Children from Sexual Offences Act (2012) involves:

- Penetrative Sexual Assault (Section 3): it involves penetration of a penis in the vagina, mouth, urethra, or anus of a child, or any object/body part, causing penetration in POCSO Act (2012).
- Sexual Assault (Section 7): it is the touching of the child with sexual intent excluding penetration.
- Sexual Harassment (Section 11): it consists of the use of words, gestures or exhibiting pornography to a child with sexual intent as mentioned in POCSO Act (2012).

- Use of a Child for Pornographic Purposes (Section 13); it is the use of a child for the purpose of sexual gratification in POCSO Act (2012) by any form of media.

The contemporary POCSO crimes consist more of digital elements than the traditional way of crimes. It includes online grooming, child pornography distribution through encrypted platforms, live-streaming of sexual abuse and technology-enabled trafficking, as per the National Crime Record Bureau (2021). This presents a powerful and unique challenge for the legal system as well as for the implementing stakeholders of the law. Further, it brings out the unique gaps in detection, investigation, prosecution, and rehabilitation capabilities in the present scenario. The digital evidence collection, anonymity of digital users of various digital platforms, global nature of online networks and daily technological advancement are the major challenges in the protection of children and preventive measures of child exploitation. The rapid evolution of digital platforms has necessitated continuous adaptation of legal responses to the emerging forms of online exploitation cited by Bharadwaj, S., Kumar, A., & Singh, R. (2022).

India is becoming technologically amplified in all the fields. With over 700 million internet users and high use of smartphone penetration, daily use, especially with youth, has increased the growth of countries in education, economy and social outlook, but it has posed a significant risk in the matter of protection of the children who are the most affected in the modern technological world by the report of Internet and Mobile Association of India (2021). The gravity of the challenges is also doubled due to the country's diverse linguistic, cultural and economic landscape for implementing the uniform technological solutions.

This study examines and evaluates how emerging technologies can help the young people in their responsiveness to the legal protection of children in India. It is not a set of law alone that is sufficient to control the POCSO crimes; the successful implementation and responsiveness of protection from sexual offences depend upon the use of technology, significantly on the user's acceptance – guided by perceived usefulness and ease of use – and core dimensions of the Technology Acceptance Model (TAM), pioneered by Davis (1989) and cited by Venkatesh & Davis (2000). The TAM has shown great promise outside of its normal application frameworks of education and other digital learning environments into essential social protection domains such as child safety and abuse reporting systems. Research has found that TAM's primary constructs of Perceived Usefulness and Perceived Ease of Use are of particular importance in the background of studying young people's intentions to use digital platforms for sensitive-reporting purposes, as cited by Venkatesh, V., & Davis, F. D. (2000). TAM can be useful as a framework to gather an understanding of how young people in India (specifically in Kerala) could make sense of and engage with digital reporting channels to report child protection cases (in the context of POCSO

ACT implementation) observed by the Ministry of Women and Child Development (2023). The model's focus on user acceptance aspects becomes significant in systems where trust, privacy, and user comfort are needed—important facets for successful POCSO case reporting platforms, as cited by Kumar, S., & Sharma, R. (2022).

The high literacy rates and human development indicators make Kerala's socio-culture regionally specific and perfect for applying TAM-based digital protective systems for youth as per the report of the Kerala State Planning Board (2022a). The state is also equipped with technological facilities and levels of digital literacy which make it possible to implement advanced reporting systems that are easily navigable and trustworthy for reporting cited Nair, P. K., & Thomas, M. (2023). However, the use of TAM in this case needs to be sensitive to the POCSO case of the technology and the focus on privacy, social stigma and fear of disclosure, which make the technology adoption decision critical, cited by Priya, A., & Menon, K. (2023). Studies show us that with young people, the perception of utility in a digital reporting system increases with useful safety and easy-to-use systems, as observed by Raghavan, S., et al. (2022).

The implementation of TAM principles with POCSO reporting systems must align with the requirements of the youth of Kerala as well as the state's sociocultural nuances. The domain of technology acceptance, particularly in the area of children's safety, hinges on authorities' trust, social support systems, perceived anonymity, and other issues beyond the TAM framework as cited by Pillai, L. R., & Joseph, D. (2023). For the youth of Kerala, the acceptance of digital POCSO reporting systems hinges on their perceptions regarding a system's responsiveness to their concerns, as cited in Sreehari, N., & Kumari, A. (2023). Also, POCSO reporting systems must meet the criteria of ease of use for all young people, irrespective of their proficiency with technology, because protective services are required to be accessible on multiple devices, as cited by George, M., & Sebastian, P. (2023).

The study of 677 young persons through the survey makes understanding how technology acceptance factors influence their readiness or willingness to report and respond to POCSO crimes clearer. This research analyses the present legal framework, technology acceptance patterns, and implementation difficulties. Finally, it can make practical and actionable recommendations for policy makers and other stakeholders based on TAM theory for improving India's young people's response and readiness for the protection of children from technology-facilitated crimes against children.

Background of the Study

The swift adoption of technology in child protection systems has assumed special significance in the fight against crimes against children, especially the

implementation of POCSO Act. National Crime Records Bureau (2023) reports indicate that child protection compliance and technology-enabled interventions are implemented in the entire law through digital applications and platforms across the country, and the implementation of digital applications in this context is more prevalent in states where digital literacy is high, as per the report of the National Crime Records Bureau (2023). The present technology has beyond the traditional law enforcement duties to further preventing measures, improved reporting systems and supporting mechanisms for victims of child exploitation and abuse as specifically observed in the studies by Sharma, A., Gupta, R., & Verma, S. (2022a) & Sharma, A., Gupta, R., & Verma, S. (2022b). The protective measures of utilization technology are with complexities due to sociocultural context, challenges of digital divide fact with reference to the marginalized population, as cited by Kumar & Singh (2023a & 2023b) and Reddy & Patel (2022). The readiness and willingness of technological literate younger people depends upon their attitude to embrace protective aids.

It is noticed that the digital revolution has grown further due to new avenues for child exploitation and they find online grooming, sextortion, and the manufacturing and supply of sexual materials through sophisticated means of communication as pointed out by Winters, G. M., Jeglic, E. L., & Kaylor, L. E. (2021). Thus, the social media platforms are becoming primary venues for the perpetrators, often exploiting the trust and naivety of the children, as cited in Kowalski, R. M., Giumetti, G. W., Schroeder, A. N., & Lattanner, M. R. (2020). Artificial intelligence, deepfakes and blockchain are epitomes of the rapid development of technologies and have also become challenges for child protection. They create new forms of detection and investigation and simultaneously manipulate the modern forms of exploitation and evidence manipulations. The present laws are not effectively equipped to handle the present situation, from the observation of Citron, D. K., & Chesney, R. (2019).

Research exposes that child sexual exploitation in online mode has increased with the reporting of a 35% increase in reports of suspected child sexual exploitation in 2020 compared to the previous year from the report of the National Centre for Missing & Exploited Children (2021). The report of the National Crime Records Bureau mentions that 53,874 cases were registered under the POCSO Act in 2021, representing 36.05% of total crimes against children (149,404 cases), with a 16.2% increase in crimes against children from 2020 to 2021 in the report of National Crime Records Bureau (2022). The increase of cybercrimes imposes a heavy burden on the department for making available modern technological equipment and qualified personnel for digital evidence collection, preservation and analysis technologies as cited by Casey, E., & Rose, C. (2018). The challenge as observed is the threat of the digital divide in India, keeping the vulnerability of the children more in rural and semi-rural areas of the country, and the rural areas, especially remote areas, lack the technological infrastructure and expertise, and it becomes extremely difficult for the

investigation and collection of evidence for digital crimes. It becomes the easy places of exploitation for the perpetrators, as per the report of Digital India (2022). POCSO Act is mingled with other offences of digital categories, such as the circulation of material of child sexual abuse, online threats and fake social media profiles intended at exploiting minors, as given in the report of the Ministry of Women and Child Development (2021). About 50,000 complaints related to online child abuse have been registered on the Cyber Crime Portal of India in 2021 from the statistics of Cyber Crime Portal India (2022). With this background the study brings out legal reform, capacity building, digital literacy and institutional strengthening beyond the academic significance.

The position of technology in legal enabling is very crucial in the digital era, but the systems should be useful and easy to be effective in the hands of young people for proper readiness and responsiveness in the protection of children. National-level technology-readiness studies often fail to reflect the socio-cultural, linguistic and infrastructural realities of Kerala, particularly when it comes to children's digital safety and legal responsiveness.

Kerala provides a case study to assess the willingness of the young to accept technology-based POCSO interventions, as it has excellent human development indicators and good digital penetration and progressive social policies, as reported in the reports of the Kerala State Planning Board (2022a, 2022b) and the Department of Women and Child Development (2023).

It is mentioned in the studies that 89% of youth in the state is possessing smartphones and access to digital platforms, pointing to a strong opportunity for technology-enabled protective measures as per the report of the Kerala Youth Development Survey (2022).

Further, it is observed that awareness and participation of young women in digital safety programmes have positively increased, with 34.2% engaging in technology-driven awareness campaigns compared to 21.8% for traditional programmes as cited by Menon & Nair's research (2023a, 2023b). Even then, after noticing the optimistic figures, a critical gap exists in understanding the actual utilization of POCSO protective measures and POCSO technology readiness, which demands the need for a targeted research programme to inform policy frameworks and further improvement in coming years for the protection of the children.

This Technology Acceptance Model (TAM) support us to assess these PU and PEU. Applying TAM in a legal-technology setting permits a correct comprehending of how young people, both male and female, communicate with digital methods related to POCSO implementation. This study addresses many gaps. The present study concentrates on how district (both rural and urban), branches of academic study, income level, gender and age settings affect the readiness of young

people over the protection measures in POCSO-related cases in the technological era in Kerala.

Literature Review

The POCSO Act (2012) for child protection in the legal arena was the outcome to address the inadequacies existed, such as

- Protection for male children from sexual abuses was not adequate
- Only rape was punishable
- Female abusers were not penalized
- Oral sex, sexual assault and the use of any objects were not considered as sexual offences
- Sexual harassment and pornography were not addressed.
- Aggravated offences were not addressed properly.
- No proper mechanisms for protection of child survivors during trial
- Single time and multiple times were not addressed
- Single offenders and multiple offenders were not addressed properly
- Healthy and differently abled children were not differentiated
- Child-friendly courts were not considered as per the law as cited by Bharadwaj, S. (2013).

The Acts have brought broad definitions for many of the issues of the crimes, such as sexual assault, non-contact offences and pornography-related offences; however, the scholarly analysis in the present digital age and technologically advanced era reveals the lacunae to address the complexities related to digital technologies. It shows the need for technologically driven protection of children as cited in Menon, S. (2018).

The traditional POCSO investigations face important challenges when dealing with digital evidence, such as technical complexity, cross-jurisdictional issues, and forensic capabilities, and further, it leads to a conviction rate lower than in the conventional cases as per the study of Nair and Kumar (2019). The studies of contemporary implementation reveal the fact that there are many elements of “digital gaps”, though the substantive provisions remain relevant; procedural frameworks struggle to accommodate the speed, scale, and technical complexity of digital crimes against children, as cited by Sharma, A., Gupta, R., & Patel, N. (2021). Child exploitation has increased in a big number due to technological adoption patterns and socio-economic factors, as per the empirical studies. Online child sexual abuse has increased by over 400% in India between 2018 and 2021 with digital adoption and exploitation risks, as per the study of Centre for Social Research (2020). The challenges have increased due to distinct categories of technology-facilitated

POCSO crimes, such as online grooming through social media platforms, live streaming for abuse for commercial purposes, and the manufacturing and dissemination of child sexual abuse materials, as per the study of Jaishankar, K., & Sankary, L. A (2020). India has become a growing field for the child sexual abuse materials and it can due to all powerful available internet facilities and availability of smart phones to all as per the report of International Centre for Missing & Exploited Children (2021). Though there are efficient infrastructures of technological supports with POCSO Courts at district level, there are quiet disparities in certain regions and remote areas making the implementation of protection principles of child abuse cases as challenging as per the report of the Law Commission of India (2021).

With the report of the National Human Rights Commission (2025), it is observed that the Act's emphasis was on the important points such as mandatory reporting, specialised courts, victim protection protocols and compensation of victims, and thus the basic lacunae faced in Indian society are the implementation. After the POCSO Act, the legislative evolution continued, and the result was the POCSO Amendment Act, 2019, which introduced enhanced penalties, including capital punishment for aggravated sexual assault cases, though the scholars have got different opinions on its effectiveness in actual crime prevention. The certainty of punishment is also important for the prevention of the crime, as per the observation by Kumar, S., & Singh, A. (2020). POCSO Amendment Act 2019:

It has been a relevant observation in Menon, R. (2021) that it cannot only be the punishment to deal with the multi-layered socio-technological dynamics but the holistic systemic alterations for safeguarding the children.

That comparative legal analysis of different measures taken to combat technology-facilitated child exploitation in those different jurisdictions is required. The broad set of legislation developed by the European Union offers us important lessons in the form of common definitions, mechanisms for cooperation beyond national borders and an obligation for industry to report as stated in Thompson, L., Anderson, M., & White, J. (2021). To counter public-facing child imagery crimes, community-oriented initiatives are recommended by the US Internet Crimes Against Children (ICAC) Task Force Program; effective specialisation in cross-agency initiatives and sharing of resources across agencies are recommended (Department of Justice, 2020).

The UK's multi-faceted approach is instructive, in its combination of proactive policing, partnerships with industry and victim support programmes, as seen through the UK Home Office (2021). There is self-regulation by several tech companies for child exploitation moderations; however, in the opinion of Citron and Chesney (2021), the voluntary industry mechanisms are not sufficient to keep up with modern child exploitation networks. It is the advantage of present generation that we have the AI and Machine learning like Google, Microsoft and others to search and fight against

child sexual abuse in fast mode as cited by Technology Coalition (2022). Along with blessings of positive impacts there are a lot of privacy problems to be dealt as reported by Privacy International (2023). There shall be proper balance between the development and protection concerns.

Gaps Identified in the Current Study

- Although there are a lot of research activities there are gaps identified in the understanding of child protection and technology developments. Adding to it there is a lack of empirical research on the implementation outcomes and legislative analysis. It is observed that there should be victimization survey and longitudinal studies to understand the exploitation patterns and intervention effectiveness as cited by Agarwal, S., Sharma, R., & Kumar, M (2024).
- Most of the research was done on infrastructure while overlooking psychological cognitive factors without taking care of self-efficiency, Perceived Usefulness (PU), Perceived Ease of Use (PEU), and behavioural control at the time of applying to young people's readiness for protection mechanisms against POCSO cases as cited by Bronfenbrenner, U (1979).
- Implementation gaps; There is a gap in implementation of law and it leads to less conviction rates as cited by Migayel, S. V. M., & Mutneja A (2025).
- Collaboration gap; As it is an era of technologically enhanced communications, there is a requirement of cooperation among legislation, technological implementation, sociological and cultural back up and enforcement mechanisms both in rural and urban areas as cited by Paul, J., et al. (2024).
- It is important to obtain the most recent data from controlled groups and relevant stakeholders to thoroughly assess the influence and usefulness of the given involvements, as cited by Murray, E., et al. (2017).
- It is also a concern that there is not enough research on the psychological and sociological aspects of the exploitation of victims through technology, as cited by Sheikh, M. M. R., & Rogers, M. M (2024).

Theoretical Background

The Technology Acceptance Model given Davis (1989) brings a stable framework for comprehending how each person receives and collaborates with systems and initiatives and Perceived Usefulness (PU) and Perceived Ease of Use (PEU) are the two main constructs of the model as cited by Davis, F. D. (1989). The young individuals believe of engaging in child protection mechanisms utilizing the modern technology is considered to be the PU in the case of youth engagement with POCSO protections systems. The easy accessibility and manageability of reporting

procedures and participating in protection activities are considered to be PEU of TAM model by the customization of TAM model of Davis, F.D. (1989). The combination of these two constructs forms youth attitudes engaging in child protection efforts and subsequently affects their behavioural intention to participate in POCSO prevention and response activities. It will ultimately lead them to actual involvement in protecting the children.

There are a lot of perceptions of usefulness which decide the youth readiness for POCSO protection in Kerala, and youth will evaluate its potential impact through the lenses of social responsibility and system effectiveness. The Kerala State Planning Board (2022) and Beig & Qasim (2022) highlight significant variations in access to information and awareness programmes spreading through demographic lines, and it decides how youth perceive their role in child protection.

The reporting of protection mechanism is basically decided by the ease of use of technology and variation can be affected by educational background, socio-economic status, exposure to awareness programmes on protection of the children and even availability of trusted reporting channels as envisaged by Sharma & Sing (2021). In other words, it has got important role in deciding engagement possibilities of youth in the protection of children.

While understanding the diverse population of Kerala based on unique socio-cultural context, TAM's individual perceptions have to be studied for examining the youth readiness. There are two faces in Kerala, and one is for a high literacy rate and progressive social policies, as well as the traditional hierarchical structures and cultural sensitivities around discussing sexual offences as cited by Davis, F. D. (1989). The social theory will give a comprehensive foundation for understanding how young people develop readiness to engage in protecting children from sexual abuse, as cited by Bandura, A. (1977).

TAM has not been fully used in legal and protection fields, though it is very relevant and modern, whereas it is predominantly used in technology and information systems. By the studies of Mishra & Panda (2002) and Chandran (2020), it is evidenced that TAM's universality is explored by the Indian studies of exploring AI readiness in an education and training context. The youth are more reliant on technology-mediated platforms for communication, information sharing and extracurricular engagements. There is close interconnection between technology and youth engagement today, and it has a natural connection and engagement for applying TAM to legal protecting mechanisms. It is also observed by Kumar & Singh (2003) that youth-centric protection systems must leverage technological interfaces to ensure effective participation. The observation of Rajesh et al. (2021) demonstrates that youth will significantly take initiative for social protection if technologically enabled reporting systems are used in any field. This convergence of

digital fluency and technology-enabled legal protection will validate the TAM's applicability to examining the readiness for POCSO child protection engagement.

The Technology Acceptance Model's core constructs are really relevant in the legal protection context too where youth must want to perceive both effectiveness of their protective actions and the accessibility of reporting and support systems as cited by Davis, F. D. (1989). In this age of the digital era, it is truly evident that legal protection systems are significantly influenced by their comfort with digital reporting platforms and mobile applications designed for child safety initiatives, as observed by Nair & Thomas (2024). It is also noticed that the usefulness of protection interventions is closely associated with youth willingness as per the study of Krishnan et al. (2023). This theoretical adaptation is an examination of how perception of usefulness and ease of engagement influence youth behaviours in their attitude and readiness behaviour for engaging the child protection mechanisms by use of the technology enabled solutions.

Objective of the Study

The research investigates the readiness and rendezvous of young people in the face of the increase in online crime against children in Kerala, even with the existence of the POCSO Act, 2012.

Primary Objective

- To assess how technological literacy, legal cognizance and insights formed by the Technology Acceptance Model (TAM) impact young people's readiness to online threats and child protection mechanisms shared by Davis (1989).

Secondary Objectives

- To study the impact of moderating variables such as geographic location, age, profession and gender in shaping young persons' access and responsiveness to digital safety information and child safety systems.
- To find out the gap between law and its implementation among youth in the present technological era.
- To provide insights and recommendations for appropriate action to policymakers, educators, stakeholders of judiciary on improving implementation of POCSO laws and protection mechanisms

Significance of the Study

The biggest threat on the face of digital connectivity is child safety, with the increasing number of cases of CSA. The law frameworks are rather fine, but their efficiency is to be studied, especially with young people, who are the primary users of technology and protectors of the children, as cited in the United Nations Office on Drugs and Crime (2021). The study bridges the gap between legal theory and digital

crime realities in the present scenario. It takes into account the importance of public perception, awareness and technology – facilitated child protection from child exploitation. This study becomes significant for various reasons;

- It relates to the gap in the young people's legal engagement in the atmosphere of technology-facilitated crimes against children.
- The legal spheres are beginning to use empirical application of TAM. This innovative use can be the best way for the next generation, as there is a close link between digital growth and legal intervention. The policy makers can make use of a safer digital environment for children and enhance the efficiency of the POCSO Act (2012).
- The study can give perceptions about the strategies for the awareness towards the protection of children, combining the digital progress and legal promotion.
- The study can support the stakeholders and policymakers with a proper predictive model using the moderating variables as cited by Singh, R., & Banerjee, D. (2023).
- It recommends that properly motivated young people who are primary users of digital technologies can move to digital safety providers for the children.
- Finally, the study proposes the evidence-based legal reform in a timely and significant manner for immediate policy application.

Statement of the Problem

Though the state of Kerala is known for its high literacy rates and strong education indicators by the assessment of Kerala State Planning Board (2022), the use of Technology Acceptance Model (TAM) is rather limited, as cited by Davis (1989) and Venkatesh and Davis, (2000). Thus, the grave problem addressed by the research is the insufficient legal responsiveness towards India's child protection legal frameworks in the rapidly evolving landscape of technology facilitated child sexual abuse cases. The young people of India still remain to be unreliable with actual engagement in legal and digital protection measures. Looking at this problem through the lenses of TAM and incorporating demographic factors like age, income, profession, locality, the study concentrates to give data-based insights to stakeholders of the state for supporting the young people to improve the readiness to mechanisms of protecting children from sexual offences facilitated by online modes.

Scope and Delimitation of the Research

This study is particularly focused on joint research on the technology-facilitated POCSO crimes and the legal framework established under POCSO Act (2012), to test the readiness of the young generation towards safety of children from sexual exploitation. The study delimits to examine the technological advancement for

child exploitation and legal responses through technological advances among the young generation. It focuses on two principles, such as Perceived Usefulness and Perceived Ease of Use of Davis (1989). The current study also introspects at factors like young people's profession, geographic origin (urban or rural), age and gender to see how these factors affect readiness to child production against POCSO cases as cited by Beig, F. A., Pandey, S., & Sharma, M. (2022). The data is collected through online and offline survey tools, suitable to the social and cultural context of the research. It is true that study did not include qualitative methods. The state of Kerala has been taken as the site of study due to its technological advancement and high literacy as mentioned by the Kerala State Planning Board (2022) and NITI Aayog (2021). As cited in Davis (1989), the Technology Acceptance Model (TAM) does not stress broader social and institutional factors. The TAM-based survey tool, as cited by Davis (1989), is customized for clarity and context, but still there can be a little bias. The responding people may misinterpret "usefulness" and "ease of use" due to differences in socio-cultural differences, as cited by Venkatesh et al. (2000) and Davis (1989).

- **Delimitation of Geography;** The technology- enabled child sexual abuse or exploitation cases in India, under POCSO Act (2012) is the limitation of the study with the insights from Nair, P., & Kumar, M. (2023). It is also related to cyber laws such as the Information Technology Act, (2000). The survey of the 677 young people from various districts of Kerala is taken for the empirical study.
- **Temporal Delimitation:** The emphasis is given on development in digital technology and corresponding legal adaptations from the period of 2012 to 2024. This period is known for the rapid digitalization of Indian society as well as the online child exploitation cases as consequences of the digitalization as cited by Sharma, D., Patel, K., & Reddy, V. (2022).
- **Legal Limitation;** it has got a slight legal focus, though it touches on online crimes broadly. The primary focus is on the POCSO Act, and the study also encompasses relevant provisions of the Information Technology Act (2000) and BNS. International conventions such as the UN Convention on the Rights of the Child (1989) are also taken care of, as it has relevance with India, as cited by Malhotra, R. (2022).

Research Questions

Main Research Question

- How are young persons prepared to respond to mechanisms which affect protection of children from technology-facilitated child sexual abuse and exploitation under the POCSO Act (2012)?

Secondary Research Questions

- How do observations of PU and PEU affect young people's engagement with digital child safety mechanisms?
- How do geographical location, age, gender and profession influence young people's access and use of digital protection data on child protection?

Hypothesis of the Study

- H₀:** Perceived Usefulness (PU) does not significantly influence child sexual abuse protection response readiness among technologically literate young people in Kerala.
- H₀:** Perceived Ease of Use (PEU) does not significantly influence child sexual abuse protection response readiness among technologically literate young people in Kerala.
- H₀:** There is no noteworthy variance in moderating effect of professional stream, geographic factors (Location), age and gender on child sexual abuse protection response readiness among technological literate young people in Kerala.
- H₀:** The Technology Acceptance Model (TAM) does not significantly explain child sexual abuse protection response readiness among technological literate young people in Kerala.

Methodology of Research

This study uses a mixed-methods research design and a quantitative approach to examine the intersection of technology and child exploitation within the area of POCSO Act (2012) in India. It analyses child sexual abuse protection response readiness among technologically literate young people in Kerala. The exploratory-descriptive methodology is made available for understanding the current legal frameworks, technological challenges, and stakeholders' perspectives on developing more responsive legal mechanisms. It basically assesses the young people's technological engagement and legal literacy of young people towards child protection in Kerala. Based on the Technology Acceptance Model (TAM) developed and cited in Davis (1989), the study analyses key constructs such as Perceived Usefulness (PU) and Perceived Ease of Use (PEU) to assess individual levels of acceptance and readiness for child sexual abuse protection response among technologically literate young people in Kerala. First of all, the study introspects on identifying the relationships between variables, PU, PEU and moderators. The target group of the study is the young people in Kerala.

A stratified random sampling technique is used to collect the data from 14 districts of Kerala taking consideration of rules cited by Kothari (2019). It is taken care

that the samples are properly selected by stratified sampling techniques for receiving the samples from various locations and from different professions while taking samples of 677 young people as cited by Slovin (1960). A structured questionnaire as used by Davis (1989) is used with necessary customization to collect the data. The survey is conducted in online and offline modes. The researcher has followed the ethical code of conduct at all stages of research, particularly at the data collection stage. The researcher analysed the data to protect respondent confidentiality and processed it according to ethical guidelines given by institutional research protocols. To test the relationship between PU and PEU, the Multiple Regression Analysis (MRA) is used. It is also taken care of for assessing the moderators' influence on the model to see their worth.

For the purpose of data analysis, as cited in Minitab (2023), the study adapted Principal Component Analysis (PCA) to confirm construct dimensions and reduce multicollinearity among indicators. The analysis is done with two purposes; firstly, it is to identify the significance of predictors of young people's engagement with technological legal frameworks. Secondly, it is to assess the impact of geographical location and age, profession and gender background as moderating variables on legal engagement for the protection of the children.

Analysis and Discussion

The regression analysis reveals that both PU and PEU significantly influence the dependent variable Y (presumably representing readiness or acceptance of a system, based on common TAM terminology). We can say that the regression model is statistically substantial as it shows it ($F = 1420.10.96$, $P < 0.000$). It points out that in the outcome variable, PU and PEU together explain a significant portion of the variance. The R-squared value is 80.84%. Thus, this model shows a large proportion of variability in Y. The adjusted and predicted R-squared values (80.79% and 80.62%, respectively) show a high model reliability and predictive capability.

The P-value of PU and PEU ($p < 0.000$) refers to the figures given below: "Figures 1, 2, and 3 and has an effective impact on Y. It shows that they are significant drivers of acceptance.

Multicollinearity is not a concern here. The VIF values are 2.07 for predictors, and they are very much within the acceptable limit ($VIF < 5$).

Analysis of Variance

Source	DF	Adj SS	Adj MS	F-Value	P-Value
Regression	2	345.08	172.542	1420.10	0.000
PU	1	60.62	60.616	498.90	0.000
PEU	1	37.58	37.577	309.28	0.000
Error	673	81.77	0.121		
Lack-of-Fit	253	66.40	0.262	7.17	0.000
Pure Error	420	15.37	0.037		
Total	675	426.85			

Figure 1

Model Summary

S	R-sq	R-sq(adj)	R-sq(pred)
0.348567	80.84%	80.79%	80.62%

Figure 2

Coefficients

Term	Coef	SE Coef	T-Value	P-Value	VIF
Constant	1.1992	0.0821	14.61	0.000	
PU	0.4263	0.0191	22.34	0.000	2.07
PEU	0.3308	0.0188	17.59	0.000	2.07

Figure 3

Regression Equation

$$B = 1.1992 + 0.4263 \text{ PU} + 0.3308 \text{ PEU}$$

We shall notice that the eigen value, referring to figure 4, depicts that there are two factors (≥ 1) which affect the readiness. Thereafter, the loading plot indicates that the variables are aligned to the two factors closer to the above cut-off of 0.3. See Figure 5. The loading plot as referred to in the Minitab (2023) output shows how individual questions are aligned under each component factor. It is that items from Q1 to Q7 are closely linked to Component 1, which shows the PEU and Q10 through Q15 are specifically connected with Component 2, connected to PU. This alignment of questions under two components confirms our initial theory that users see usefulness and ease of use influencing the readiness. The result shows that the questionnaire, borrowed from Davis (1989), is intact with minimal bias from the observation.

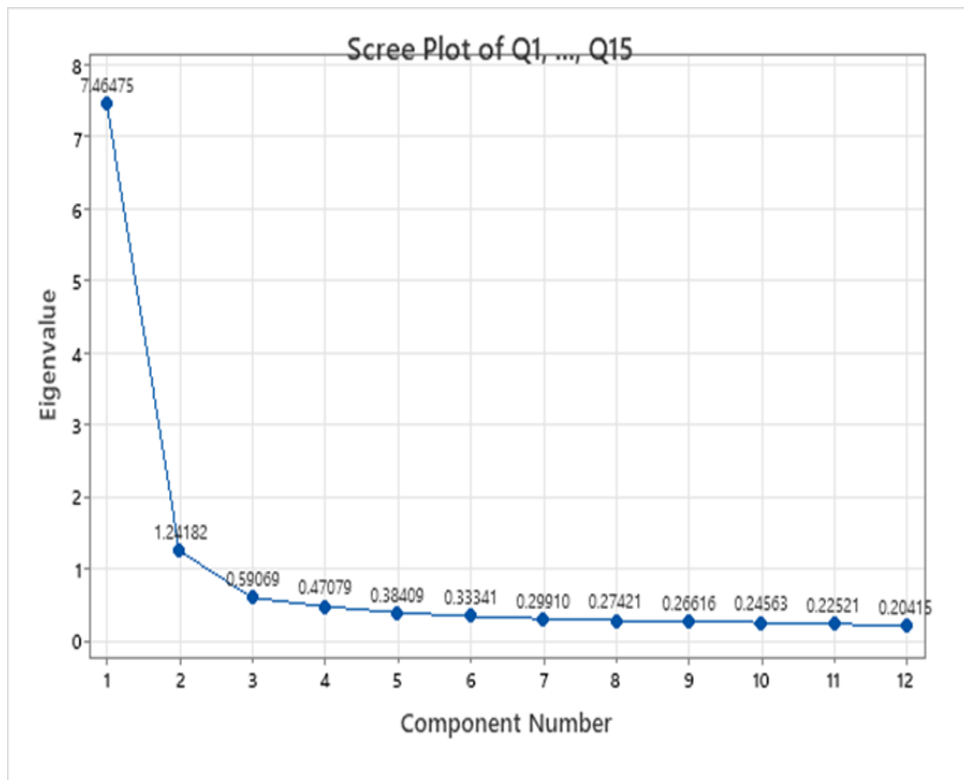


Figure 4

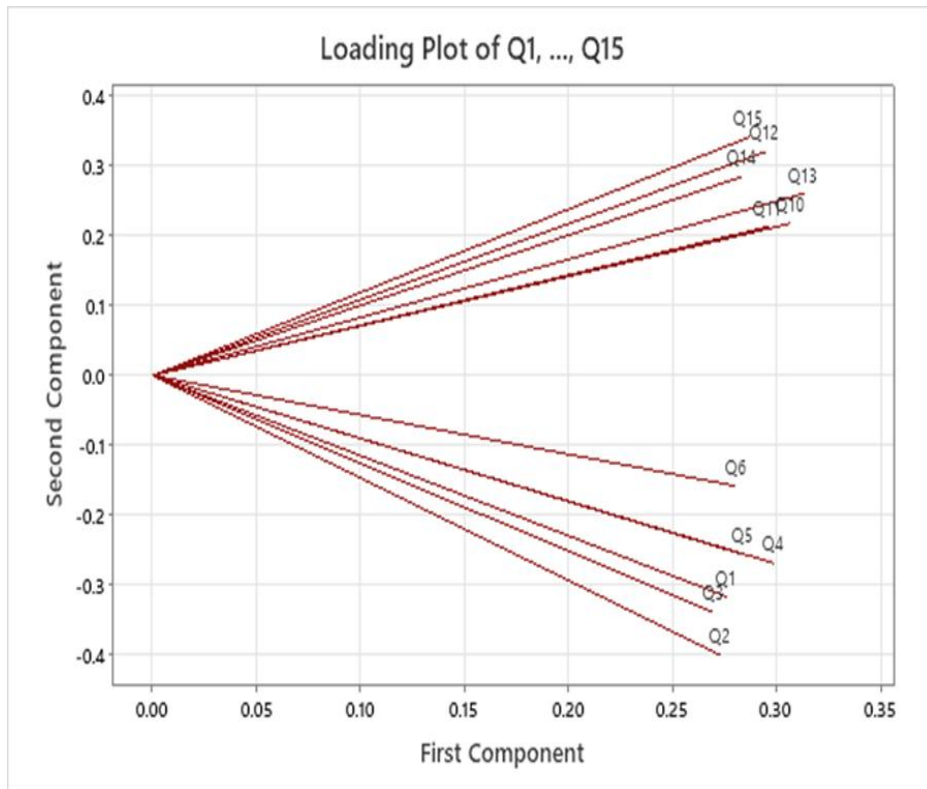


Figure 5

The Study with Moderators;

The branch of profession, age, gender and location is not that much influencing except the profession has got some significance. It is clear as per the multiple regression analysis that Perceived Usefulness (PU) and Perceived Ease of Use (PEU) predict the outcome variables as showing the technology acceptance and readiness as modelled from Davis (1989). It is the conclusion that the model is over all significant statistically with overall value ($F(30.645) = 98.31, p < 0.000$) and it depicts that the predictors collectively describe a portion of the variable in the dependent variable.

From the figure, it is clear that the R-squared value is seen as 80.84%, and the adjusted R^2 is at 80.79%. Due to this reason, a strong model fit and good predictive power are exposed. Regarding the moderating variables, the branch of profession has got some significance, whereas the location, age and gender don't have any significance.

Analysis of Variance (ANOVA) Results

Model Summary

R-squared
82.06%

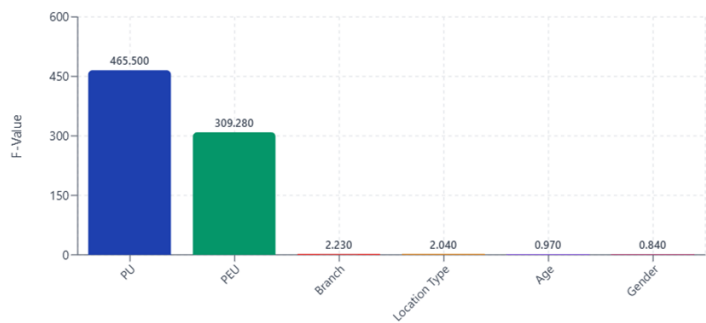
R-squared (pred)
79.66%

R-squared (adj)
81.22%

Standard Error
0.344612

F-Values

P-Values



ANOVA Table

Source	DF	Adj SS	Adj MS	F-Value	P-Value	Significance
PU	1	55.281	55.2814	465.50	<0.001	Significant
PEU	1	36.729	36.7292	309.28	<0.001	Significant
Branch	8	2.117	0.2647	2.23	0.024	Significant
Location Type	2	0.483	0.2417	2.04	0.132	Not Significant
Age	17	1.961	0.1154	0.97	0.489	Not Significant
Gender	1	0.100	0.0998	0.84	0.360	Not Significant

- Key Findings:
- **PU (Perceived Usefulness)** shows the highest significance (F = 465.50, p < 0.001)
 - **PEU (Perceived Ease of Use)** is also highly significant (F = 309.28, p < 0.001)
 - **Branch** shows moderate significance (F = 2.23, p = 0.024)
 - **Location Type, Age, and Gender** are not statistically significant (p > 0.05)
 - The model explains **82.06%** of the variance in the dependent variable

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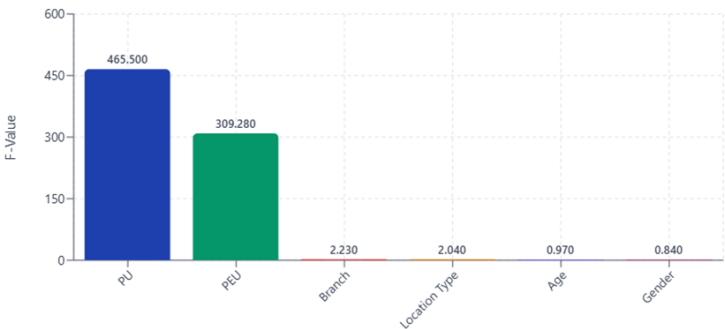
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Findings

- The impact of PU and PEU is strongly noticed in the study. The young people who are technologically equipped are more responsive in the reporting and protection of the children.
- There are critical lacunae between technology-facilitated exploitation of children and legal protection of children.
- For the protection of children from cybercrimes, the requirement of digital literacy is a required.
- There is not much difference in reporting inconsideration of the age, gender and profession as moderating variables; however, it is the location as a moderating variable that makes a slight difference in reporting.
- The model of multiple regression analysis is found to be effective in the legal field too.
- There is a close relationship between digital awareness and legal responsiveness.
- There are proper guidelines required with the law enforcement agencies in creating awareness in walks of life.

Recommendations

- Concentrate on digital and technological awareness programmes and combine both for the effectiveness of the law
- Overcome the socio-cultural and economic barriers in reporting and protecting the children from sexual exploitation by developing technological infrastructure in under developed areas.
- To make immediate amendments in legal frameworks addressing emerging technological threats and demanding expedited digital evidence processing, cross-border cooperation mechanisms and mandatory company compliance protocols.
- Make simple digital platforms for legal engagement and formulate them to be easy for all and in mother tongues.
- Use modern media for promoting the awareness of the law and its safety measures.
- Necessitate an all-inclusive approach merging technology, education and community effort to protect the children
- Improve the monitoring mechanisms with forensics infrastructure, cloud-based evidence storage systems and AI-powered content analysis tools.

Conclusion

The Perceived Usefulness and Perceived Ease of Use are the most significant predictors of child sexual abuse protection response readiness among technologically literate young people in Kerala. It is in line with Davis's (1989) observations. The variables express a strong and statistically significant influence both with and without the inclusion of moderating factors. Thus, the utility and use-friendliness are the key factors in shaping their readiness as the result of the study. Though the professional branch had shown a moderate impact, demographic and contextual moderators such as gender, age or location did not show statistically significant impact on readiness in the regression model.

This research has comprehensively studied the intersection of technology and child protection under the POCSO Act (2012), exhibiting the important gaps in legal responsiveness to technology-facilitated child exploitation. It is true that the POCSO Act established a foundational framework for child protection, but its adaptive strength to address emerging digital threats remains importantly limited. The POCSO Act implementation with the integration of advanced technologies is an opportunity for using modern technology as well as a difficult challenge for India's child protection system. It is true that the modern digital technologies have a variety of exploitations of traditional frameworks; however, the digital technology opens with innovative and powerful tools for enhancing detection, investigation, and transborder communication for the prevention of crimes against children. It is very significant from the study of 677 persons that the Technology Acceptance variables are very influential on POCSO reporting pattern. It exhibits that integration of PU and PEU must be prioritized while framing the law and its implementation procedures. Since the moderating variables' effect is not significant, the well-implemented systems can be easily and effectively implemented across the diverse population with minimum effort. The technology-enhanced POCSO systems should be designed with attention to the usability and effectiveness of digital mechanisms where young people with a minimum of professional knowledge will remain reporting when there are child exploitations of any sort. The study identifies that artificial intelligence, blockchain technologies, and encrypted communication platforms as emerging areas are in need of immediate legal attention to keep the current pace of the digital transformation. Based on the study, there arose the urgent need for legislative reform, capacity building, public awareness and the combining of legal laws and technological advancement. The study stresses that young people's responsiveness has to be increased as they are directly involved in the digital world. The youth-centred approaches for the protection of children in India have to be effectively implemented and consider the young people as the partners in the creation of a safer and technologically balanced country for the children of today and in the future. Finally, it is important that perceived usefulness and ease of use are critical for better adoption,

and the TAM model of Davis (1989) is very much valid in the promotion of law implementation and its protection response, especially for the protection of the children. It is not enough for the best law, but it is also important for its supporting systems, such as targeted training and awareness for the stakeholders as well as for the general public, especially for the technologically advanced youth, to fight against the technologically facilitated crimes against children.

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