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Citation:

Schreuders, C and Cockcroft, TW (2017) Needs Assessment of Cybercrime and Digital Evidence. In: Tackling Cyber Crime and Improving Police Response Showcase, 25 May 2017 - 25 May 2017, Leeds Beckett University. (Unpublished)

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Needs Assessment of Cybercrime and Digital Evidence in a UK Police Force

Aims

To analyse the cyber-investigation lifecycle: from the experience of the public when reporting cyber crime to call takers, through to the attending officers, officer(s) in charge, and the many units and roles supporting cybercrime investigations



Existing Literature highlights...

Cybercrime investigations require a mix of traditional and new policing techniques (UNODC United Nations Office on Drugs and Crime, 2013)

Cybercrime investigation is complicated by the fact that legislation and procedures differ across jurisdictions, including the admissibility of evidence (Europol, 2007)

The cost of cybercrime to the EU is estimated at 13 billion euros per year, and based on share of individual country GDP, the cost for UK is estimated to be 2 billion euros yearly (Armin et al., 2015).

An important issue regarding cybercrime is that the lack of understanding among police forces regarding the scale of digital crime (HMRC, 2015)

These are police awareness of vulnerabilities of cyber victims and the ability to collect digital evidences from the victims (HMRC, 2015)

Existing Literature highlights...(cont,)

Ten critical issues: public awareness, data and reporting, uniform training and certification courses, management assistance for onsite electronic crime units and task forces, updated laws, cooperation with the high tech industry , special research and publications, management awareness and support, investigative and forensic tools, and structuring a computer crime unit (Stambaugh et al, 2001)

There was a lack of standardised training approaches and professional certification in the area of computer forensics (Rogers and Siegfried, 2004).

There is a need for more funding and personnel; better ETC, tools, and communications; updated laws; and research on cloud and mobile forensics (Harichandran et al, 2016)



Existing Literature highlights ...(cont.)

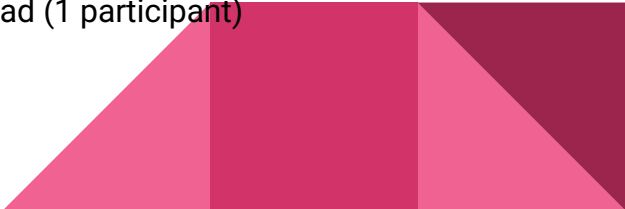
A lack of equipment, training and personnel are the main issues. These are compounded by the fact that investigators and prosecutors have different values, knowledge and expectation when dealing with cyber enabled crimes (Davis, 2010)

A need to focus on short and longer term needs (Stambaugh et al., 2001)

Critical ten areas of needs: Public awareness, Data and reporting, Uniform Training and certification courses, Onsite management assistance for electronic crime units and task forces, updated laws, Cooperation with the high-tech industry, Special research and publications, Management awareness and support, Investigative and forensic tools and Structuring a computer crime unit (Stambaugh et al., 2001)



Methodology - Data Generation

- Contact Communication Centre (4 participants)
 - Strategic Leads for Training (3 participants)
 - Covert Authorities Bureau (4 participants)
 - Cyber Crime Team (2 participants)
 - DCI Strategic Lead (1 Participant)
 - Dedicated Source Unit (2 participants)
 - Digital Forensic Unit (3 participants)
 - District Staff, NPT, DCR (7 participants)
 - Economic Crime Unit (2 participants)
 - Communications (1 participant)
 - Intelligence (2 participants)
 - Investigative Analysts and Researchers (6 participants)
 - Murder and Serious Crime (2 participants)
 - Safeguard and Central Governance (1 participant)
 - Murder – Strategic Lead (1 participant)[1]
 - Technical Support Unit (2 participant)
 - Telecoms (2 participants)
 - Telecoms – Strategic Lead (1 participant)
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Methodology - Analytic Framework

Kaufman's Organizational Elements Model

SWOT Analysis



Methodology - Analytic Framework (cont.)

- Inputs (Is)
- Inputs (Should Be)
- Processes (Is)
- Processes (Should Be)
- Needs (Processes)
- Products (Is)
- Products (Should Be)
- Outputs (Is)
- Outputs (Should Be)
- Outcomes (Is)
- Outcomes (Should Be)
- Strengths
- Weaknesses
- Opportunities
- Threats



Findings







References

Armin, J., Thompson, B., Ariu, D., Giacinto, G., Roli, F., Kijewski, P., 2015. 2020 Cybercrime Economic Costs: No Measure No Solution, in: Availability, Reliability and Security (ARES), 2015 10th International Conference on. Presented at the Availability, Reliability and Security (ARES), IEEE, Toulouse, pp. 701–710. doi:10.1109/ARES.2015.56

Europol (2007) ref needed

Harichandran, V.S., Breitingner, F., Baggili, I., Marrington, A., 2016. A cyber forensics needs analysis survey: Revisiting the domain's needs a decade later. *Comput. Secur.* 57, 1–13. doi:10.1016/j.cose.2015.10.007

HMRC (2015), Real lives, real crimes: A study of digital crime and policing, 2015. . HMIC: London.

Rogers, M.K., Seigfried, K., 2004. The future of computer forensics: a needs analysis survey. *Comput. Secur.* 23, 12–16. doi:10.1016/j.cose.2004.01.003

Stambaugh, H., Beaupre, D.S., Icové, D.J., Baker, R., Cassaday, W., Williams, W.P., 2001. Electronic Crime Needs Assessment for State and Local Law Enforcement Series: Research Report. NCJ.

UNODC United Nations Office on Drugs and Crime, 2013. Comprehensive Study on Cybercrime.

