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The critical incident technique as a tool for gathering data as part of a qualitative study of information seeking behaviour

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Background to Critical Incident Technique

- **CIT 1944**
 - Development of methodological tool to explore critical requirements for specific occupational groups or activities
- **Flanagan 1954**
 - a set of procedures for usefulness in solving practical problems
- **Butterfield et al. 2005**
 - Championed CIT flexibility and diversity of disciplinary application, however highlight terminological inconsistencies

CIT in information behaviour studies

“a brief but memorable information seeking episode” Urquhart (2001)

- **Large scale questionnaire based studies:**
 - Radford 2006; an examination of young people’s perceptions of public libraries
 - Small & Snyder 2009; an examination of the impact of school libraries on student achievement and motivation
 - Tenopir, King & Bush 2004; Tenopir et al. 2009; Tenopir 2012; examinations of academic faculty’s readership of scholarly articles
- **Qualitative information behaviour studies:**
 - With a focus on particular professions or professions
 - On Google searching
 - Serendipity in search
 - Everyday life information seeking – ELIS
- **Limitations of CIT:**
 - Too few critical incidents (Davenport)
 - Lack of reflection on CIT method (Urquhart)

Research Methodology

- Study conducted in 2011, sponsored by an engineering software provider focusing on the oil and gas sector
- Explored the role of information systems in enhancing health, safety and emergency response
- Also uncovered insights into information seeking behaviour of oil and gas professionals in a health and safety context



Research Methodology

- Two stages to the project:
 - Quantitative online questionnaire survey of over 370 individuals
 - Qualitative in-depth interviews utilising critical incidents as a focus
- Second stage of the project forms the basis of this paper, which is considered in terms of Flanagan's (1954) five key steps of the CIT process



Step One – Understanding the general aims of the activity being studied

- Main focus of this study was the role of information systems and information behaviour in enhancing health and safety in the oil and gas industry
- Research team with background in information behaviour and solid understanding of health and safety management in oil and gas sector
- Input from commissioning company to ensure industry perspectives reflected in instrument design



Step Two – Making plans and setting specifications

- Critical incidents pre-determined by participating companies
- To ensure consistency interviews were conducted by same member of research team
- Pilot interviews were conducted with 3 relevant individuals to ensure effectiveness of research instrument
- Critical incidents were predetermined through consultation with participating companies



Step Three – Collecting the data

- Study based on four critical incidents with an operator, a contractor, a manufacturer and a logistics company
- 11 interviews were conducted across the four participating companies with individuals from differing levels in the organisational hierarchy
- No obvious evidence of ‘collusion’ taking place in an attempt to provide consistent accounts
- Use of CIT gave focus to interviews enabling description of information seeking behaviour without a deep understanding of the information domain on a conceptual level



Step Four – Analysing the Data



- Interviews lasted between 40 – 120 minutes, were recorded with permission and transcribed verbatim
- Transcripts analysed with recurring themes being coded in an iterative process

Step Five – Interpreting and Reporting the Results

- Interview transcripts were independently analysed by two members of the research team to increase reliability of the interpretation of the data gathered



Conclusions

- Inconsistent application of CIT has been highlighted by various observers as a weakness
- The present authors believe that CIT can be used flexibly
- However the critical insight with which research instruments are designed is important, with testing of research instruments in open and exploratory ways to evaluate their true contribution
- Quantitative vs. Qualitative – both are achievable with CIT
- CIT advantageous when examining information behaviour as method for illuminating impact of context on information behaviour
- CIT must be used in a thoughtful manner with full recognition of its weaknesses in the design of future research