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Bletchley Park: an untold story in Information Science

Paul Clough*, David Ellis**, David Kenyon***, Ana C. Vasconcelos*, Simon Wakeling****

*University of Sheffield, **Aberystwyth University, ***Bletchley Park Trust, ****Charles Sturt University

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STRUCTURED ABSTRACT

Aim of contribution

This paper explores the view of Bletchley Park (BP) as an untold story in Information Science. While a substantial amount of literature relating to the site and its operations has been published, these primarily focus on military and intelligence history, or technical and mathematical subjects, with limited coverage in information science. We argue that there is an untold story of BP as a complex information arena.

Value of contribution

The Bletchley Park story is highly significant for contemporary organisations. Its complexity processing capacities provide an early example of integrating modern data processing with sense-making, visualisation, and interpretation of complex information, to develop impactful actionable intelligence. This led to shifts in emphasis in how intelligence organisations manage information and knowledge, thereby offering data and information professionals today further insights into effective data and information science practices.

Research outline

BP was a highly innovative and complex organisation, operating in an unique historical period. Between 1938-1946 it was the home of the Government Code and Cipher School (GC & CS), dedicated to the decryption and analysis of intercepted communications during WWII. Its breaking of the German armed forces' Enigma cipher system changed the course of the war. As a result, the process of breaking enciphered communications evolved from a small scale, 'pencil and paper' operation into a large scale industrialised intelligence 'factory' - an early example of a modern data-driven big technology company.

In this opinion piece based on a literature review, we argue that BP represents a fertile and under-exploited subject for information science research.

Significant strands of academic research have focused on BP. These are mainly extant to information science and in the fields of military and intelligence history, cryptography, mathematics, social history, computing, and archaeology. In organisational studies, Grey and Sturdy (2009) explore BP as a knowledge-intensive and hybrid organisation and in information systems, Beynon-Davies (2015) analyses work related to the Enigma machine from the perspective of the reconceptualisation of information technologies.

The information and knowledge transformation work of BP had several components - the receivers, dealing with the intercepted messages; the initial transcription of the receipts for initial decoding by the Bombes; the decoding; the subject classification, requiring indexing and classification; then interpretation and mobilisation. Its operations encapsulate many of the principles underlying contemporary data science and analytics, such as big data processing, data management, and human computation. BP handled data of great volume and velocity, with the need for effective real-time analysis and data management. Its systematic use of indexes provided an important form of organizational memory and an early example of knowledge management (Beynon-Davies, 2015).

Only two works relating to BP, both by Rodney Brunt, can be said to fit firmly within the library and information science field. These describe and analyse its indexing, cataloguing, and documentation processes (Brunt, 2004; Brunt, 2006), with a focus on the systems and devices developed and used by staff at the site. While the works of Grey, Sturdy, Beynon-Davies and Brunt can inform our understanding of information practices at BP, our review suggests that the story of its work from a holistic information perspective is yet to be uncovered. Additionally, there is more to understand about its highly effective data value and how lessons learned from BP might be exploited by data-intensive organisations today.

BP exhibits the coexistence and integration of information work of very diverse nature, from the routine capturing and processing of large volumes of 'content free' signals and data, to sense-making and interpretation of complex information in order to develop actionable intelligence. The coexistence of these regimes of information work at BP into an integrated value chain which operated at a very large scale underpinned its

complexity processing capabilities. BP evolved from the pre-war code breaking machine and cypher school to an intelligence or Signals Intelligence operation of which one of its legacies is contemporary SIGINT. This led to shifts in emphasis in how intelligence organisations manage information and knowledge and informs its legacy to data and information sciences, information and knowledge management, and information systems.

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