
Implementing Evidence-Based Practice in Elite Team Sports: An Action Research Case Study

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Abstract

Research Objectives

This research project is an intervention project in which the objective has been to integrate analytics (i.e. the use of statistical analysis to support decision making) into the day-to-day work of the coaching staff of an elite sports team. Little is known about the use of evidence-based approaches within elite sports teams and how statistical analysis is used to support decision making by coaches other than the well-publicised Moneyball story which tells how the Oakland Athletics in Major League Baseball use statistical analysis in player recruitment (Lewis, 2003). The project offers a unique insight into the process of developing evidence-based practice in an organisation since the researcher has become part of the organisation and has been an integral participant in the change process by undertaking the performance analysis and co-producing the reporting structure.

Evidence-Based Practice

Evidence-based practice refers to the conscientious, explicit and judicious use of information in making decisions. Practice, particularly when alternative courses of action exist, is usually justified by some form of evidence. What counts is the nature and quality of the evidence and how it is used to inform practice. An explicit evidence-based approach can be traced back to medicine and the reaction to an editorial in the British Medical Journal in 1991 citing a study that only 15% of medical interventions were supported by solid scientific evidence.

The descriptor “evidence-based” is now widely used in many fields including, for example, evidence-based management (Briner et al, 2009), evidence-based policy and evidence-based coaching. Four general types of evidence can be identified across these various applications: (i) practitioner expertise; (ii) situational context; (iii) external research; and

(iv) stakeholder interest. Evidence-based practice is the modern equivalent of Aristotle's concept of phronesis (Flyvbjerg, 2006). Aristotle defined phronesis as practical wisdom involving deliberation and action under conditions of doubt, and identified four sources of understanding in phronesis: general principles, particulars, experience and consideration. These closely match the four types of evidence informing evidence-based practice. A key aspect of evidence-based practice is the attitude of mind of the decision-maker. As Pfeffer and Sutton point out, 'evidence-based management is conducted best not by know-it-alls but by managers who profoundly appreciate how much they do not know.' (2006, p.73)

Action Research: Method and Data

Action research is research undertaken with the principal purpose of influencing and changing behaviour. The use of action research was first suggested by Lewin (1946) who argued that to really understand organisations you need to attempt to change them. This is the approach of the current research project in which the researcher has effectively become part of the organisation being studied and has participated in the co-production of a radical change in behaviour. Following Robson (2011), the research has sought to produce three types of improvement – improvement in practice within the organisation, improvement in the understanding of practice by organisational members, and improvement in organisational outcomes. Four types of data have been collected: (i) an action diary including the researcher's notes on key events and meetings; (ii) email communications between the researcher and organisational members; (iii) internal reports; and (iv) written personal testimony of organisational members.

Case Study

The case study involves the coaching staff of a professional sports team competing at the highest level in England and Europe. The team was originally formed in the 1870s but had achieved little sporting success when it changed ownership in 2009 and a new Sporting Director was appointed to transform its sporting performance. An evidence-based approach was adopted to coaching and, as the result of a 3rd party recommendation, the researcher met with the Sporting Director and coaching staff in March 2010 to discuss how evidence-based coaching could be extended with greater emphasis on statistical analysis alongside existing video analysis. Through a close working partnership with the coaching staff, analytics has now been embedded in the day-to-day decision making of the coaching staff. The researcher has become "an extension of the club's coaching team" [Personal Testimony, High Performance Coach] and with the coaching staff has co-produced a sophisticated performance analysis and reporting structure covering pre-game opposition analysis, post-game analysis, training priorities and strategic planning including player recruitment. The researcher is

gradually facilitating the development of in-house capabilities to undertake the collection, analysis and interpretation of data. The team have achieved considerable sporting success since 2009 and have established themselves as a force in European competition. Analytics is “seen by the entire club as a unique point of difference” [Personal Testimony, Sporting Director] and “an integral part of the sustained success” [Personal Testimony, Team Captain].

Key Findings

The action research case study has highlighted four principal reasons for the successful development of sports analytics as a key component in a thoroughgoing evidence-based coaching regime: (1) strong leadership commitment to evidence-based practice; (2) the creation of an organisational culture open to new ideas and prepared to use evidence to challenge existing beliefs and practice; (3) significant previous education and professional experience of some of the coaching staff in the use of evidence; and (4) the perception of analytics as an extension and enhancement of existing practices with the coaches actively involved in producing practice-based evidence, refining the reporting structure and extending the range of applications. The case study has also stressed the importance of the researcher being able to build a close working relationship with practitioners based on trust and mutual respect. It has been crucial that the researcher has developed a deep understanding of how practitioners perceive the decision context as well as being able to present the results in an appropriate and decision-relevant manner, for example, data visualisation, particularly the use of a traffic-lights system of colour-coded KPIs.

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