

Can Stats Turn The Game Around? Effective Use of Statistical Decision-Support Systems by Coaches during Continuous Live Sport

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Abstract. More data is collected during live sport than ever before. Coaching boxes are filled with monitor screens, displaying game vision and up-to-the-minute physiological and statistical information while the contest unfolds on the field in front of them. However in my experience there is a profound lack of transference from in-game statistics into improved performance by the team on the ground. This is particularly evident in continuous-play team sports such as soccer, Australian Rules football and the rugby codes, with large teams, few substitute players and no time-outs.

While Key Performance Indicators (KPIs) are used in post-game analysis to find excuses, refine strategies and make personnel choices, senior coaches confirm that they have never made a match-winning strategic move based on statistical knowledge discovery after the game had started. Several barriers are involved:

- Lack of mathematical knowledge amongst coaching staff
- “Too Much Information”: TMI overwhelming and obscuring the KPIs
- “Too Little Information”: drawing inferences from insufficient data observations, e.g. a belief in four-in-a-row momentum
- Poorly designed statistical information displays
- A tendency to trust instinct and qualitative observation over raw numbers
- Lack of agreement on the best response to a statistical deficit
- Turf Defence: Reluctance of coaches on year-to-year contracts to cede advisory roles to technology
- “Chinese Whispers”: Limitations of messaging between coaches and players during continuous play
- The patent futility of communication using numerical language with game-focussed and fatigued players – someone has to translate complex analysis into a simple actionable message

Despite these considerable barriers, progress is being made towards effective recognition and use of live statistical information, the key being the preparation of the coaching panel for alternative scenarios and agreed responses well in advance of the match. I will discuss new integrated programs at AFL (Australian Football League) clubs and applications to other sports.

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