AN EVALUATION OF MEDAL-BASED MEASURES OF PERFORMANCE IN THE SUMMER OLYMPIC GAMES

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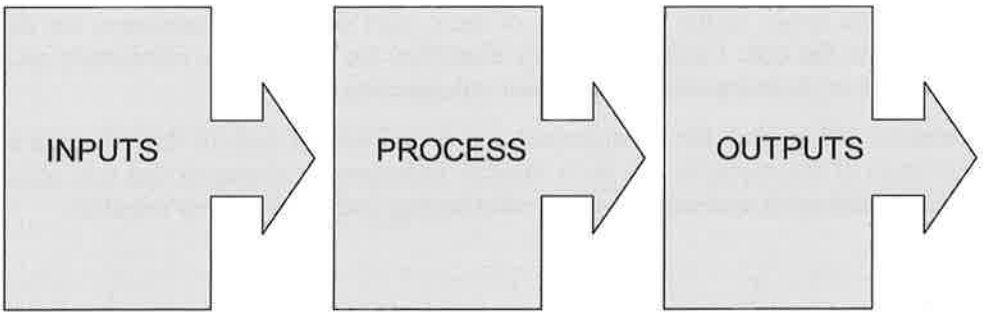
Context

Nations for whom sporting success is important commit to strategic planning processes such as the World Class Performance Programme in the UK or Performance 2008 in the Netherlands. The components of these and similar programmes across the world are becoming increasingly familiar and are documented in the emerging body of literature. Oakley and Green (2001a; 2001b) argued, along with Clumpner (1994), that the elite sports development systems of the UK, France, Spain, Canada, USA and Australia are becoming increasingly homogenous, to the extent that they are based around a single model of elite sports development, but each with slight variations.

It follows that if nations are adopting a strategic approach to the production of elite athletes, then part of that process must be to evaluate the results achieved (outputs) relative to the resources invested (inputs). The notion of the 'process' approach to the production of medal-winning elites and the implied imperative of measuring performance is illustrated in Figure 1.

Figure 1: Elite athlete production as a process model



The purpose of this paper is to examine various methods by which the outputs of an elite athlete production system can be measured using the Summer Olympic Games (28 sports) as a case study. Furthermore, we also examine the limitations of the analysis and propose some alternative measures which will need to be tested in due course. Given the homogeneity of systems, the reason for our analysis for nations which commit to strategic approaches to elite athlete development, is to identify the effectiveness and efficiency of such systems so as to pinpoint who is performing well and why.

Methods

This research is derived from the intermediate outputs of an international programme of research known as SPLISS (Sports Policy factors Leading to International Sporting Success – editor, see paper by Veerle de Bosscher) The SPLISS programme is a partnership between UK Sport; the Free University, Brussels; and the Mulier Institut in the Netherlands. The methods combine a programme of desk research covering an extensive secondary analysis of medal-winning performance statistics and further transnational qualitative and desk research sport policies of the sample nations. A detailed description of the desk research is documented in UK Sport (2003) and the transnational research conducted by the SPLISS consortium is forthcoming (2005/06).

What was more important, however, was the "pleasantness of the operating environment" and the social network that was established. Long-term commitment developed as the volunteer activity became integrated into their day-to-day living and the volunteer relied on their involvement for social and psychological support.

Connections to the organisation

In the initial stage, the volunteers' connections with the organisation were usually of a secondary nature. For instance, someone volunteered because of a friend's or family member's involvement with the sport. As volunteers became more involved, they began to 'own' their role and establish a primary connection to it. As in the previous theme, long-term commitment was associated with a deep social and psychological connection. Individuals volunteered, not just because of kin/friends' involvement or enjoyment in a specific role, but more importantly, because of an emotional attachment to the sport. For example, one volunteer remarked that she volunteered because she "loved the people and the sport."

Altruism

Altruism was one of the most commonly cited motives for volunteering. However, this research's findings suggest that the nature of altruism changed the longer the volunteer remained in the organisation. Volunteers initially volunteered to 'do something worthwhile.' What often lead to the retention of the volunteer was that they enjoyed the experience and gained satisfaction through helping others. The long-term volunteer had a more complex understanding of the altruistic benefit of their involvement. These volunteers spoke of the importance of their roles and the consequences for the organisation if they did not do the task. Furthermore, they identified the benefits the community as a whole received from the work of their organisation and their volunteering.

The conference presentation will explore the development and complexity of each of these themes in greater detail. The next stage of this research will be to identify management strategies that will assist in moving towards more sophisticated understandings of volunteering and assist in their retention.

References

Coffey, A., & Atkinson, P. (1996) *Making sense of Qualitative Data: Complementary Research Strategies* Thousand Oaks, CA: Sage

Cuskelly, G. (1996) *Volunteers in Sport: A Study of Organizational Commitment and Turnover* unpublished Ph.D. Griffith University

Sportscotland (2003) *Sport 21:2003-2007* Edinburgh: Scottish Sports Council

Taylor, P. et al (2003) *Sports Volunteering in England* London: Sport England online at: www.sportengland.org

Willis E. (1992) Managing Volunteers in Batsleer J., Cornforth C., & Paton R. (eds*) Issues in Voluntary and Non-profit Management* Milton Keynes: Open University Press

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Results and Discussion/Implications

The research evaluates the performance of six nations in the Summer Olympic Games using the following four measures: 1) final medal table position; 2) total medals won; 3) 'points won' using a 3,2,1 scoring system for gold, silver and bronze respectively; and, 4) a measure of market share, that is the points won as a percentage of the points available. Each method will be explained in greater detail during the presentation. The principal finding from the research is that using four different types of medal-based measures of performance in the Summer Olympic Games can lead to conflicting diagnoses of a nation's sporting success. This point is perhaps best illustrated by considering the case of Great Britain and Northern Ireland whose performance in Sydney 2000 and Athens 2004, using the four measures described above can be seen in Table 1.

Table 1: Conflicting measures of performance

Method	*2000*	*2004*	*Performance*
Position in medal table	10th	10th	Same
Total medals	28	30	Better
Points	60	57	Worse
Market share %	3.28%	3.11%	Worse

Depending on the performance measure adopted, Table 1 illustrates that it is possible for to argue reasonably that Great Britain's performance in Athens 2004 has remained the same, improved or deteriorated compared with its performance in Sydney 2000. This is hardly a satisfactory position for UK Sport to be in when trying to justify an investment of over £100m on support for elite athlete development during the Athens Olympiad. However, of the four measures outlined in Table 1 we will argue that market share is best indicator of a nation's performance. It is a more robust and controllable measure of success than moving up the medal table simply because, for example, superior nations have become even more dominant. Furthermore, we will argue that medal-based measures of performance are themselves limited as they do not measure arguably equally important measures of performance such as the number of events qualified for; how far qualifying athletes or teams progress throughout a competition; and the number of athletes posting seasonal bests or breaking national records during an event at which they are required to reach and deliver peak performance. In short, whilst medal-based measures of performance are a highly visible way by which to judge the performance and influence the future funding of Performance Directors, the reality is that in a global environment of increasing competition for medals, medal-based measures of performance are but a limited means by which to evaluate a system designed to produce medal winning elites.

References

Oakley, B. and Green, M. (2001a) Still playing the game at arm's length? The selective re-investment in British sport, 1995-2000 *Managing Leisure: An International Journal* 6, 2 74-94

Oakley, B. and Green, M. (2001b) The production of Olympic champions: International perspectives on elite sports development systems *European Journal for Sport Management* 8,1 83-105

Clumpner, R.A. (1994) 21st Century success in international competition pp 353-63 in Wilcox, R.C. (ed) *Sport in the global village* Morgantown, WV: Fitness Information Technology, Inc

UK Sport (2003) *European Sporting Success: The development of medal winning elites in five European Countries* London: UK Sport

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THE STUDY OF PREDICTION MODEL OF CUSTOMER DEVELOPMENT IN A TAIWANESE SPORT AND HEALTH CLUB

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Context
Accurate prediction can reduce risks, lower the cost of damage, and avoid waste of resources. So, as well as for researchers, for enterprises and managers, accurate prediction is a critical issue. As a result, establishing a systematic prediction model is a crucial task, and this study aimed to do it for sport and health clubs.

Method
The study used the concept of Artificial Neural Networks (ANN) of data mining to analyze the important characteristics of these customers, and to provide the best marketing strategies for them. According to Yeh (2002), the ANN is a computing system uses massive numbers of artificial connected neurons to simulate the ability of the biological neural network. It obtains information from the external environment or other artificial neurons, performs an extremely simple operation, and outputs its result to the external environment or other artificial neurons. Non-member customers of the Golden Health Club were selected as the subjects; there was data on 543, and after deleting inappropriate records, there were 308 for this study.

Results
These were as follows

- customers were almost exactly evenly male and female
- most were Taipei city residents (90.2%)
- about two-thirds were unmarried (64.7%)
- about one-third of them were aged between 26-30 (29.1%)
- more than half were recommended (56.2%)
- 86% had never visited the Golden Health Club before joining, and 86% were not members of another health club
- 44% of them exercised 3 days a week; about half at night, 51% coming straight from their offices because of the convenience
- vitually all were willing to continue healthy programmes
- losing weight was the main goal(30%).

The Back Propagation Network (BPN) technique in ANN implied the best correct classification rate, 98.4%. The integrated approach successfully constructed a prediction model of GHC's customer profile. Based upon Yeh (2002), BPN is the best learning model and the most universal pattern of ANN. BPN is belonging to the supervised study network so that it fits to diagnosis and prediction.

Conclusion
Through an empirical study, the results indicated that the proposed approach has good prediction accuracy. Thus, in terms of marketing and management strategies, the Club should plan its customer strategy by seeking to transfer these customers into membership

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