



Separating the wheat from the chaff: An intelligent sales recruitment and benchmarking system

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ABSTRACT

The need for computer-based intelligent techniques for recruitment and retention of employees in a highly competitive global market has grown significantly in the last decade. Salesperson recruitment is a critical task for most organisations. Existing approaches for salesperson recruitment primarily rely on filtering of applications based on selection criteria followed by interviews. Some organisations also include personality testing based on psychometric techniques. The high turnover of salesperson in the industry suggests limited success of these procedures. Additionally, existing approaches lack benchmarking methods. In this paper we describe design and development of an intelligent sales recruitment and benchmarking system (ISRBS) for recruitment and benchmarking of salespersons. ISRBS design represents operation of the findings and outcomes based on actual field studies and random surveys of salespersons as well as development of models for measuring independent and dependent variables related to selling behaviour. The main contributions of the paper are (i) Developing an on line selling behaviour profiling technique based on integration of intelligent system techniques like expert systems and fuzzy sets, psychology based selling behaviour model, and AHP techniques, and (ii) an objective and novel selling behaviour benchmarking technique to facilitate modelling of organisation based benchmarks and cultural fits. An earlier version of this system has been commercially used in the industry in Australia. ISRBS integrates psychology based selling behaviour model with artificial intelligence techniques and soft computing methods for selling behaviour profiling and benchmarking.

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1. Introduction

Sales management among other responsibilities includes forecasting demand (sales), managing salespersons, and establishing sales quotas. Managing salespersons involves such activities as recruitment and training of salespersons, supporting the salespersons in their work, meeting with customers, establishing territories and evaluating performance. Recruiting the right type of salesperson who matches the organisational needs has a critical impact on the performance of the sales force, sales manager, and the organisation as a whole (Barksdale, Bellenger, Boles, & Brashear, 2003; Dessler, 2002; Franke & Park, 2006; Jaramillo, Mulki, & Solomon, 2006; Raub & Streit, 2006). Statistics show improper recruitment of salespersons leads to job dissatisfaction, substandard performance and high turnover (Arvey & Campion, 1982; Barksdale et al., 2003; Dixon, Wang, Calvin, Dineen, & Tomlinson, 2002; Futrell & Parasuraman, 1984; Garcia & Kleiner, 2001; Galvin, 2001; Levashina & Campion, 2006; Sunderland, 2001). On the other hand, improper recruitment techniques can cost \$100,000 per salesper-

son (Churchill, Ford, & Walker, 1997) as expenses for recruitment, training, lost sales and managerial time devotion.

Recently, organisations have also employed psychometric tests techniques (Aiken, 1999; Compton, Morrissey, & Nankervis, 2001; Schapper et al., 2000; VNU Business Publications Ltd., 2002). Psychometric techniques assess personality strengths and weaknesses of a sales candidate, providing feedback on candidate's stability for a position (Cole, Field, & Giles, 2003; Friedenber, 1995). These techniques are based on the premise of comparing or benchmarking the candidate against an ideal set of parameters related to various personality traits. These parameters and the measurement techniques do not necessarily take into account the personality traits and characteristics which have been found to be successful on the ground in a given organisation. Therefore, conducting a psychometric test and comparing the candidate against an ideal set of parameters may not be suitable or appropriate in practice. Further, indirect questions used in psychometric techniques for evaluation are not well understood by the candidates and candidates resist and some times refuse to answer indirect questions.¹

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¹ Extracted from the comments made by the senior HR managers using psychometric techniques in Australian Industry in the 2nd Recruitment and Retention Conference, Melbourne, Australia, October 2005.

Thus, there is a need for providing an objective feedback, using direct question based techniques and developing selling behaviour profiling techniques on selling behaviour of salespersons and there by improving the information quality about the candidate's selling behaviour for smart decision making. This paper describes an intelligent sales recruitment and benchmarking system (ISRBS) which combines a selling behavioural model and knowledge and experience of the sales managers to develop an expert system for determining selling behaviour category & profile sales candidate online. The benchmarking method can be considered as an objective way of determining social and cultural person fits in an organisation. The selling behaviour profile feedback provided by the ISRBS can be used by the interview panel to customize and validate the interview of a sales candidate and focus on areas where the behaviour profile is representing commitment towards a behavioural category or areas where there is lack of clarity in the behaviour profile.

The paper is organised as follows. Section 2 starts with introducing a two dimensional selling behaviour model that is used in the research. This is followed by design and description of intelligent selling behaviour model. The intelligent selling behaviour model outlines twelve fuzzy behaviour categories to determine the behavioural category and intensity of a salesperson. Section 3 describes the design of the selling behaviour profile analysis which includes the seventeen areas and their weightings used for behaviour evaluation related to twelve fuzzy behaviour categories. Then, questions were designed to analyse the seventeen areas of the selling behaviour. Section 4 explains the design of intelligent selling behaviour categorisation and benchmarking system. Section 5 reports on some results of implementing the intelligent selling behaviour categorisation component, and the ISRBS behaviour profile benchmark component. Finally, Section 6 concludes the paper.

2. Selling behaviour model

The basic selling behavioural model (Khosla & Goonesekera, 2003a; Khosla, Damiani, & Grosky, 2003; Khosla, Lai, & Goonesekera, 2004) used in this paper is shown in Fig. 1. It has two dimensions namely, “Warm–Hostile and Submissive–Dominant”. This model has been used based upon interactions with senior managers in the sales and human resources arena in the consumer and manufacturing industries in Australia (American Educational Research Association, 1985; Khosla & Goonesekera, 2003b). The reasons for using this particular model are: (a) the domain experts found it less complex, (b) they found it easy to relate with as it

mimicked their way thinking for typifying/categorizing salesperson behaviours and, (c) they found this model close to sales training programs they had undergone. Some of the typical salesperson characteristics that emerge from this behavioural model are shown in Fig. 1.

Warmth is regard for others. A warm person is optimistic and willing to place confidence in others. A warm person has good humour. *Hostility* is a lack of regard for others; the attitude that other people matter less than oneself. A hostile person rarely trusts others. *Submission* is the disposition to let others take the lead in personal encounters. It includes traits like dependence, unassertiveness, and passiveness. A submissive person would rather be led than lead. *Dominance* is the drive to take control in face-to-face situations. It includes a cluster of traits like initiative, forcefulness, and independence. A dominant person is ambitious and has a strong desire for independence.

The two dimensions Submissive–Dominant and Warm–Hostile give rise to four broad groups of salespersons and customers, that is, Dominant–Hostile (DH), Submissive–Hostile (SH), Submissive–Warm (SW), and Dominant–Warm (DW).

This model is an extension of the selling behaviour model designed by Buzzotte, Lefton, and Sherberg (1981). It can be seen from Fig. 2 that 12 fuzzy behavioural categories have been introduced. They are SH(High), SH(Med), SH(Low), DH(High), DH(Med), DH(Low), SW(High), SW(Med), SW(Low), DW(High), DW(Med) and DW(Low). These fuzzy behavioural categories provide a basis for distinguishing sales candidates' behavioural intensity (High, Med, Low) as well as selling behaviour category (Khosla & Goonesekera, 2003a).

It has been observed in earlier experiments (Khosla et al., 2003), that domain experts employ linguistic variables like “High, Med, and Low” to express their opinion on the selling behaviour category of a salesperson. Additionally, they employ these linguistic variables to express the intensity (or degree of membership) of a salesperson's selling behaviour in a particular behaviour category. Qualitatively behaviour intensity in a particular behaviour category can be interpreted as follows. A salesperson with a “High” intensity in DH behaviour category is likely to be aggressive in a larger number of areas related to selling than a salesperson with “Med” intensity. Effectively, this may mean that the salesperson with “High” intensity is not only aggressive with customers but also may be aggressive with their peers or boss. In contrast, a salesperson with “Med” intensity in DH category may be aggressive

Dominant	
Dominant - Hostile	Dominant - Warm
The salesperson must impose their will on the customer by superior determination and strength. Selling is a struggle the salesperson must win.	Sales are made when customers become convinced that they can satisfy a need by buying. The salesperson's job is to demonstrate to the customer that their product would best satisfy the customer's need.
Hostile	Warm
Submissive - Hostile	Submissive - Warm
Customers buy only when they are ready to buy. Since persuasion does not work, the salesperson's job is to take their order when the customer is ready to give it.	People buy from salespersons they like. Once a prospect becomes a friend, it is only reasonable that he should also become a customer.
Submissive	

Fig. 1. Salesperson behaviour profile (Khosla & Goonesekera, 2003a; p. 171).

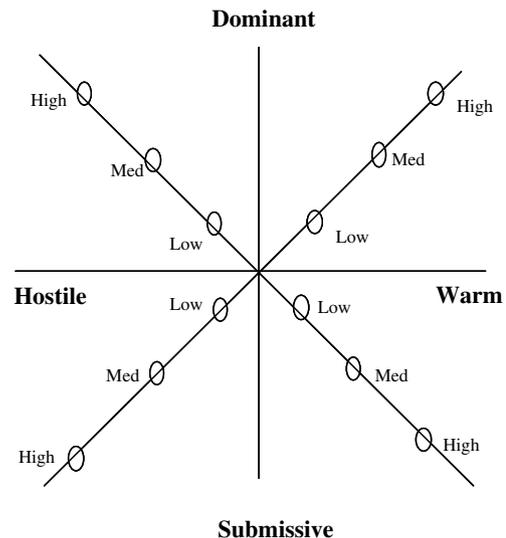


Fig. 2. Fuzzy selling behaviour category model.

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