THE RELATIONSHIP BETWEEN MANAGERS AND OPERATIONAL PERFORMANCE: A PROPOSED MODEL AT AUSTRALIAN PUBLIC SPORTS AND LEISURE CENTRES

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Abstract
Researchers and professionals need conceptually and empirically, sound models of the nature of relationships between managers and an organisation's operational performance. However, despite copious studies of managers, a model that links theory to practice is missing from research. For example, in the leisure industries there is a need for a model of the relationship between the managerial qualities required and displayed by the managers, and the operational performance at Australian local government sports and leisure centres. This study proposed an initial path model of eight predictive variables, including managerial qualities, and their relationship with the operational performance of sports and leisure centres owned by Australian local governments. The proposed model contributes a new basis for review and development of current practice in the development activities for managers of this sector.

Keywords: managerial qualities, performance, leisure, path model.
Introduction and background

The role of the manager has been well-researched (Bass, 1990; Boyatzis, 1995; Hearn & Close, 1997; Mintzberg, 1994; Sternberg & Kolligian, 1990; Wallace & Hunt, 1996). The assumed impact that managers have on the operational performance of their organisation is evident in popular management publications (Blount, Boss & Mair; 1999; Peters & Waterman, 1984; Sarros & Butchatsky, 1996; Semler, 1993). However, the research literature available in English has not linked up the assumed impact managers have on operational performance and two prominent research gaps remain. First, despite nearly 3,000 of these centre managers in Australia (ABS 2002, p.22), there are only a small number of studies that have attempted to identify their professional qualities. Second, those studies that have dealt with managers in sports and leisure organisations, have not dealt simultaneously with the relationships between the manager and the organisation’s operational performance (Frisby, 1991; NASPE-NASSM Joint Task Force, 1993; Smale & Frisby, 1992).

The research question addressed in this study was ‘what are the relationships between the perceived managerial qualities of managers of centres and the perceived operational performance of those centres’? The proposition was that perceived managerial qualities are predictors of, or a positive influence on, the perceived operational performance at Australian local government sports and leisure centres.

The challenges associated with identification of a sound model, or system of managerial qualities for local government sports and leisure centre managers has received relatively little attention (Bovaird 1992; Cuskelly & Auld 1991; Deane 1992; DeSensi & Kelley 1990; Frisby 1991; Lambrecht 1991; Smale & Frisby 1992; Soucie 1994). A major limitation in the research has been the lack of established theory; and this is of concern given that at the same time, a growth in research and theory has occurred for related industry sectors and allied professionals (Avkiran & Turner, 1997; Dainty & Anderson, 1996; Gonczi, Hager & Athanason, 1990; Hearn & Close, 1997; Mayer, 1992; Russ, 1999). In addition to gaps in research-based theory dealing with the managerial qualities of managers at sports and leisure centres, there is a research gap in the area of, measures of sports and leisure centre performance (Crilley & Howat, 1993; Crilley & Howat, 1997; Howat & Absher, 1995; Milne & Murray, 1997). In attempting to research the relationships between managerial qualities and operational performance, the study reported provides a basis for review of the literature by the industry and individual organisations, of current staff training and development. It may also be relevant to recruitment, selection, and remuneration practice, but these were beyond the scope of the current study.

Smale and Frisby (1992) made a substantive contribution to managerial development with particular reference to the sport and recreation sector. In part, their contribution was a response to a claim by Busser and Bannon
that there was a shortage of research into competencies with particular reference to the public sector. Although relevant research dealing with state and local government sectors has emerged in the 1990s, it remains limited in the specific area of sports and leisure centre management, particularly at the individual organisational level. The Smale and Frisby (1992) research however, did not consider the limitations inherent with self-reporting of competencies, or of the value in identifying any relationships between staff competencies and the operational performance of organisations. Arguing that competence and incompetence represent labelling phenomena rather than entities in themselves, Sternberg and Kolligian (1990) were supportive of the contribution of attribution theory to managers’ assessment. Markus, Cross and Wurf (1990) also emphasised not only the role of a person’s self in defining competence, but the role of important others in determining which attributes were valued. In a discussion of assessing competence in Australian professions, Gonczi, Hagar and Athanasou (1993, p. 6) noted that competence is inferred from successful performance and integrates attributes as underlying conditions within the valued actions (the performance). Dainty and Anderson (1996, p. 27) defined ‘capabilities’ for executives (they also used the term interchangeably with ‘quality’) as ‘...the behavioural skills, areas of knowledge, cognitive processes and the emotional makeup of the executive needed for effective performance.’ Dainty and Anderson (1996, p. 22) presented a generic framework of 11 capabilities grouped into three areas, but qualified the framework by requiring the provision for customisation and recognition that ‘...emphasis on each (capability) changes according to the demands of the job’. This framework incorporated feedback for their assessment of managers from multiple sources (Cipolla & Trafford, 1998) and considered the merit of current developments in CBA and competency based training; accepting that the theory of managerial behaviour must include reference to individual, contextual, and behavioural variables as well as measured performance. In a similar manner, while the Weatherhead School of Management (WSOM) MBA program (Boyatzis 1995) evolved from the earlier work of Boyatzis (1982), it consists of 22 abilities, subdivided into three groups, together with 11 knowledge areas, and the identification of a personal values orientation.

The domains of a generic set of competencies for professions in Australia were investigated, and defined, by Hearn and Close (1997). Although their results supported previous studies testing for generic competencies the researchers made the observation that there appeared to be a clear delineation between the relative emphasis of professional and managerial competencies (Hearn & Close 1997, p. 58). Avkiran and Turner (1997) have presented the development of a method to evaluate regional bank managers’ competence as perceived by immediate subordinates. This study addressed a number of issues of research priorities and methods raised by Elliott (1999), and Neal and Griffin (1999). Elliott (1999, pp. 23-4) had identified that ‘leadership’ and ‘the management of small enterprise’ as two of eight management research priorities, and a
conceptual gap, including shortcomings of existing models, in need of attention. Neal and Griffin (1999) argued the need for a substantial model of individual performance to act as facilitation for research to investigate the underdeveloped linkages between individual performance and organisational outcomes.

Lok and Crawford (1999, p.111) identified at least three broad approaches to assess organisational effectiveness. These approaches came from their examination of the relationship between employees’ responses on two different questionnaires developed to assess the employees’ evaluations of their organisations. One approach is based on goal theory; considering how well an organisation achieves or attains preset goals and objectives. Green and Griesinger (1996) used the goal attainment approach along with a systems approach in their examination of the tasks and responsibilities of not-for-profit boards, and an exploration of the relationship between board performance and organisational effectiveness. Lok and Crawford (1999), and Green and Griesinger (1996) noted that the other major approach to assessing organisational effectiveness was systems theory. Sharp (1994) presented a diagrammatic model of the systems approach as it could be used in program evaluation. While efficiency and effectiveness of resource usage is evident in this approach, a third dimension of program or service appropriateness is prominent by considering the actual outcomes of a program with its objectives (public organisational and, or, client or community needs).

Traditional financial measures of organisational performance have included share price to earnings ratio, dividend yield, discounted cash flow, and net asset valuations (Huang Tung-Chun, 1998; Neely, 1999). Dunk and Roohani (1998, pp. 5-6) used measures for eight key result areas from General Electric in their Australian study of technology policy, task uncertainty, and organisational performance. These result areas included the following, profitability, productivity, market position, product leadership, personnel development, employee attitudes, public responsibility, and a balance between short and long-term goals. Neely (1999, pp. 222-3) noted this apparent complexity of measures, and suggested that relevant measures could change over time, and that they should be derived from the organisation’s strategies. Little research in these areas is specifically about the linkages and it remains ‘...assumed that improvements in individual task performance will translate into improvements in organisational effectiveness...’ and that ‘Little is known about the mechanisms linking individual performance to broader organisational outcomes’ (Neal & Griffin, 1999, p. 52).

Studies by Boyatzis (1982), and Dainty and Anderson (1996) attempted to identify and explain the differentiating qualities of effective managers and their presumed impact on the operational performance, invariably using surrogate indicators of operational performance. These researchers accepted that subordinate
or peer ratings on qualities associated with successful managers, by default, included a positive relationship with the effectiveness of the organisations. There would appear to be three reasons for a lack of research involving the specifics of the relationship between managerial qualities and the operational performance of organisations. First, there were no accepted indicators or measures of operational performance. The second reason might be that for the generally accepted measures of operational performance, researchers rarely had access to data across a number of organisations at any one time due to the owners claimed commercial sensitivity of such data. Third, there was no clear agreement on a model that defined an effective manager.

Methods

Specific frameworks of managerial qualities (Crilley, 1999) and operational performance (Crilley & Sharp, 2003) for sports and leisure centres were used in the study. The use of these frameworks was to test for relationships with a set of objective and subjective criteria of operational performance derived from previous publications (Crilley & Howat, 1997; Crilley, 1999; Hiebeler & Kelly, 1998; Howes, 1995; Industry Commission, 1997; MacKay & Crompton, 1990; McNair, 1992; Milne & Murray, 1997; Sport England, 2000). These two frameworks, of managerial qualities and of operational performance, were also to operationalise managerial qualities and operational performance to allow for testing of the relationships by multivariate analysis. This type of analysis is used to test the relationships while accepting the possibility of intervening, independent variables being present and considered in the study, and hence to overcome the poor treatment of intervening and mediating variables as one of the major limitations of previous research in other industry sectors (Terziovski & Sampson, 1999).

Development of a suitable suite of managerial qualities for the current study was undertaken from a detailed literature review and subsequent national mail survey of 229 centre managers (Crilley, 1999). The set of managerial qualities used for a second survey of managers, administered on-site, was from factor analysis of the data collected from the national survey, and guided by the research by Wallace and Hunt (1996). The survey data analysed for this paper came from two self-administered questionnaires, incorporating a so-called '360 degree' feedback component as proposed by Cipolla and Trafford (1998). Managers and staffs (n=488) from 141 centres, in the presence of the researcher, completed this second questionnaire. This method was used as an aid to improve the quality of data collected for other sections of the questionnaire (Marshall & Wood, 2000). Second, another section of the questionnaire sought an assessment by managers, staff, and peers, of the frequency that the manager does display identifiable managerial qualities, based on reflection over the preceding 12 months, or summer for outdoor aquatic centre staff.

A Proposed Model
One approach to assist in the study of potential causal relationships in non-experimental studies is that of model building and path analysis using regression analysis (Tuinman & Keeves, 1994). This approach to model building is often used in the social sciences and in educational research. Similarities exist between the educational and management context that includes the limitation of the researchers to control variables under study experimentally, because of ethical and operational reasons. This lack of control emphasises the usefulness of proposed causal models when tested with path analysis for the development of a better understanding of the relationships in the proposed models (Mwetulundila 2000, p. 85). In the examination of factors that influence operational performance of Australian sports and leisure centres, a number of key factors have been proposed but few have been tested in systematic studies. It is in this context that the current study focuses on development of a model of relationships with a number of variables, each potentially contributing to an understanding of the relationships between the qualities of the manager, and of the operational performance of the sports and leisure centre.

The model developed for the current study is recursive as depicted by the unidirectional arrows between latent variables. In Figure 1, location, management type, facility type, financial turnover, manager profile, staff profile, managerial qualities (by manager), and managerial qualities (by staff) are proposed as antecedent and mediating variables. They are all assumed to influence the dependent variable (operational performance), and that influence is represented by unidirectional arrows in the path diagram, presumed to have a temporal order from left to right in numbered sequence.

As a form of data reduction, manifest variates are combined into theoretical components, resulting in multiple measures of the latent variables. This process takes advantage of composite variables based on shared variance. The PLS program uses composite weights to create latent variables and to optimise linear relationships between predictor, and predicted components. Paths between the theoretical constructs are standardised path coefficients or beta weights obtained from a regression analysis of the variables (Keeves, 1997, p. 728). It should be noted that the latent variables formed in the analysis have no natural metric and therefore the use of standardised path coefficients needs to be employed to provide meaning to the relationships.

Partial least squares modelling (PLS) was developed for situations where data does not meet the assumptions necessary for maximum likelihood estimation methods. The current study of the relationship of managerial qualities and the organisation's performance is clearly one such situation. In particular, PLS does not require data to meet all of the assumptions of a normal distribution of data, or large sample sizes, or for data to be at
the ratio level (Falk & Miller, 1992, pp. 1-9; Hair, Anderson, Tatham & Black, 1995, p. 639). PLS allows for mixed-measurement level of multivariate data analysis within a single model and optimal linear relationships are computed between latent variables. These variables are then interpreted as the best set of predictors available for a given study, and are usually presented in a figure or path model (Falk & Miller, 1992, p. 2; Sellin, 1989, p. 192). PLS allows for a systematic examination of the proposed influence of numerous predictor variates on the criteria in a theoretical model (in this study, the operational performance of centres) that may advance the understanding of the relationships, and advance model development.

PLS provides an index of the adequacy of the model by showing the strength of each individual path in the model, and examines the direct and indirect effects between variables (Sellin, 1997). The size of an estimated path coefficient in the model advanced for the current study is used to assess the magnitude of its effect, and the size of its standard error estimated through jack-knifing procedures is employed to examine the level of confidence that can be placed in the estimated effect (Mwetulundila, 2000, p. 97).

**Trimming the PLS Model**

An established guide to trimming PLS models was used to develop the final model (Sellin & Keeves, 1997, p. 4356). In the first model tested, tenure strongly correlated with time in position, and it was therefore dropped from further analysis. There was very little missing data from the survey responses, with the single largest non-response to any question representing less than 10 per cent of the sample. The missing data in these instances were replaced by the mean of the remaining responses for that item. Although weights and factor loadings are available for the combination of manifest variates to construct latent variables in the model, it is the weights estimated in PLS by coefficients that correspond to standard regression weights. Additionally, the weights are effective and are reported for the inward mode (Sellin & Keeves, 1997). Component loadings and weights for the measurement model are provided in Figure 1 on the arrows between variates (eg. manager’s age) and variables (eg. manager’s profile).

Reporting of the results follows the practice of reporting loadings in factor analysis, and weights in regression analysis (Falk & Miller, 1992, p. 64). Multiple correlations represent the percentage of variance in the endogenous variables accounted for by the predictors in the model (e.g., operational performance variance accounted for by managerial qualities). The block total of financial turnover, manager profile, and managerial qualities (manager) directly accounts for 15 per cent of the variance in operational performance.

**The Outer Model**
Loadings on outer-directed blocks (managerial qualities and operational performance) are considered equivalent to first principal component loadings of factor analysis (but without the assumptions of un-relatedness) within the context of this model (Falk & Miller, 1992, pp. 62-66). Although there were two loadings below 0.40, the majority of loadings were moderate across the three variates and four are very high. With the exception of persuading and conflict resolution for managerial qualities (manager), all 16 managerial qualities components make considerable contributions to the latent variables of managerial qualities (manager) and managerial qualities (staff). Similarly, with the exception of customer service quality, all five operational performance components make strong meaningful contributions to the construct. A contribution of PLS to data analysis is the ability to analyse categorical data, such as the facility type variables used in the current study, to define the sports and leisure centres, and managers and staff (Falk & Miller, 1992, pp. 67-71). In the case of centres by facility type, there are three categorical manifest variates with dry sport centres set as a dummy in the analyses. The weights may be thought of as providing the condition under which the linear relationships between variables are maximised (Falk & Miller, 1992, p. 71). The weights on inner-directed blocks with one latent variable such as manager profile and multiple, manifest variates such as age, gender, time in position, and education level are considered standardised regression weights within the context of the model (Falk & Miller, 1992, pp. 66-68).

The Inner Model

The latent variables in the path model include antecedent variables, mediating variables, and the dependent variable. The antecedent variables and variables responsible for mediating effects for the current model (latent variables in Figure 1) are assumed to influence the outcome variable of operational performance, represented by the unidirectional arrows in Figure 1.

A Summary of the Proposed PLSPath Model

Figure 1 shows the final model developed for the current study with path coefficients between variables shown on the arrows, and the standard errors in brackets. The total variance of the operational performance criteria explained by the eight latent variables of the model is of a medium size, where $R^2 = 15$ per cent (Cohen & Cohen 1992, pp. 155-9). Three variables have a direct, positive effect on operational performance namely, financial turnover (0.22), manager profile (0.22), and managerial qualities (by manager; 0.19). The model also identifies the variables that have an indirect effect on operational performance, namely the three variables of location of the centre (through manager profile; 0.15), management type (through managerial qualities; -0.04), and facility type (through financial turnover; 0.18). Only staff profile has no direct or indirect effect on operational performance. Five key relationships are supported by the analyses, and identified in
Figure 1. These relationships include the following:

1. The manager profile variable seems to have a direct effect on operational performance with a Beta of 0.22, as well as an indirect, mediated effect through managerial qualities (relatively insignificant at -0.05).
2. The staff profile variable has no effect on operational performance.
3. The managerial qualities variable (by manager) seems to have a direct effect on operational performance (a Beta of 0.19).
4. The managerial qualities variable (by staff), has no effect on operational performance.
5. The financial turnover and manager profile variables seem to influence operational performance, to a similar level as the managerial qualities variable (by manager).
Figure 1 A Proposed PLSPath Model of managerial qualities and operational performance at Australian sports and leisure centres

Conclusion

Providing empirical evidence of the relationship between managers, their managerial qualities, and
operational performance, as Neal and Griffin (1999) remarked, remains a major challenge. Within the sports and leisure centre sector where management of facilities is the foci, there is very limited empirical research on this topic. Although there are no known directly comparable studies to this aspect of the current study, the results of the current research are supported, in some aspects, by the findings of Boyatzis (1982); Dainty and Anderson (1996); Hearn and Close (1997); and Wallace and Hunt (1996). Results of the current study suggest it may be inappropriate to accept generic models of managers as a guide for the training and development of managers in the Australian sports and leisure centre sector. Centre managers in this sector appear to need a combination of eight specific managerial qualities to be effective. Although competency based training has been widely introduced throughout this Australian sector at the operational entry level for staff and volunteer training, the current study provides a rationale for a modified approach for developing managers in this sector. This modification might include at a minimum, a second-generation competency based training approach specifically focused on the front line level, and incorporation of organisational and sector specific qualities, as identified in the current study, as a focus of the curriculum and development experience. The path diagram of the proposed model is a new contribution to model building for this management sector that deserves further research and development. This model appears to advance and contribute to knowledge areas through a study involving empirical testing not previously conducted, and the results have implications for public policy, the development of managers, and managerial practice in this sector.

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[1] This paper is based on studies by Gary Crilley as a PhD candidate with Flinders University of South Australia.