CHAPTER THREE

3. DETERMINATION OF VALUE: PERFORMANCE EVALUATION

3.1 Introduction

In the first chapter of this research report the concept of evaluation was introduced with regard to library and information services in a corporate environment. It was suggested that determination and demonstration of value was central to the continued existence of a corporate investment. Chapter two outlined the legal character of the South African law firm and described the legal information services in relation to national legislative and judicial process.

This chapter addresses the conceptual basis of value and evaluation with particular reference to performance measures and models. It attempts to determine to what extent existing performance models and standards offered useful guides to measuring value in corporate library and information services.

3.2 What is value?

The concept of value was consistently encountered in economic terms such as cost, price, and production of wealth. One of the earliest recorded definitions of the word "value" in the English language indicated a clear association with the price that an item would command:

To estimate or appraise as being worth a specified sum or amount... 1482

Shorter Oxford English Dictionary on Historical Principles, 1944

A related meaning was more specific to the perspective of the owner or potential owner and the value he or she placed on the item:

To consider of worth or importance; to rate high; to esteem; to set store by... 1549

Shorter Oxford English Dictionary on Historical Principles, 1944
These definitions recorded the earliest uses of the word "value" in the English language, but the concept of value predated modern language. As early as the fourth century BC Aristotle distinguished between usefulness and the value of an item as a means of commercial exchange when he wrote:

Of everything which we possess there are two uses: both belong to the thing as such, but not in the same manner, for one is the proper, and the other the improper or secondary use of it. For example, a shoe is used for wear, and is used for exchange; both are uses of the shoe. He who gives a shoe in exchange for money or food to him who wants one, does indeed use the shoe as a shoe, but this is not its proper or primary purpose, for a shoe is not made to be an object of barter.

Aristotle, 350BC

The distinction between value in use and value in exchange was the subject of discourses by various theorists, including Bernardo Davanzati (1529-1606), John Law (1671-1729) and Adam Smith (1723-1790). Law's deliberations on the relationship between use and exchange values led him to formulate the water-diamond paradox. This stated that water had utilitarian value but had no exchange-value while diamonds had exchange value but no value in use. Notwithstanding the oversimplification in this analogy, a distinction was clearly drawn between the different types of value. The interpretation of this water-diamond paradox illustrated the theory of value as apparently opposing views in the value theory of demand and supply. Law considered that it was the scarcity of diamonds that gave them their market value, while Smith concluded that market value was related to the cost of production, particularly to labour costs (CEPA).

The polarisation of these theories of value in terms of supply or demand was challenged by the theory of marginal value (Taylor, 1996). Rather than articulating a new economic theory of value, theorists reconciled some of the more obvious anomalies.

The current mainstream theory, the marginal theory of value, finds the determination of value in the intersection of the demand force of utility and the supply force of cost.

Taylor, 1996

The theories of value with regard to the forces of demand and supply had direct application to library and information services. The distinction between utility value and exchange value persisted in the dilemma over cost recovery or profit generation as the basis for the exploitation of the (monetary) value of information and information services. Value in use was associated with the determination of cost
effectiveness, value in exchange supported the debate over the transformation of information services to profit-generating operations. These important corporate issues were investigated in the context of monetary return on the corporate investment that is reported in Chapter seven.

3.3 Purpose of evaluation

Identification of desired outcome was seen to be helpful in defining value and the purpose of evaluation (Cronin, 1985: 5; Willemse and Du Toit, 1996: 10; Bryson, 2000). Van House considered evaluation as an instrument for achieving internal, operational objectives and external, strategic objectives:

Internally, we assess where we are; identify what it is we have yet to accomplish; and determine what it is we need to get there. Externally, we use evaluation to communicate what we do, how we will do it; how far we have gone towards our goals, and what we need to accomplish our goals. Our purpose is to get the resources we need to achieve our goals.

Van House, 1996:2

Town (1998: 82) explained that from the perspective of managing a competitive venture the purpose of evaluation was to determine a standard of excellence and measure performance against that standard: "I seek clarity on how to account for what I do, and how to define success."

It was the need to determine a standard of excellence and the need for accountability that became identified as discrete themes in this research study. Information literature of the period 1996 – 2001 suggested that performance evaluation was a useful means to determine value in library and information services.

3.4 Performance evaluation

Performance evaluation was rigorously debated in information literature in the 1990s and was the subject of papers presented at conferences, seminars and workshops in many countries. Much of the literature was available online in electronic journals,
conference proceedings, research papers, and on the Web sites of academic, public sector and professional organisations.

- Three international conferences on performance measures were held at the University of Newcastle-upon-Tyne during the period 1995 to 1999. Papers from the Fourth Northumbria Conference held in August 2001 were not available to this researcher.
- In 1998 the International Organization of Standards (ISO) based in Geneva, Switzerland published *ISO 11620: Information and documentation services: Library performance indicators*. This standard was published to guide performance evaluation in all library environments.
- The EQLIPSE and EQUINOX projects developed sets of performance indicators for European libraries. The EQUINOX project published its draft standards on digital performance indicators online for public comment. The final document was published online in November 2000.

Themes that were encountered in the determination of value included performance modelling, performance measuring and the application of performance indicators.

3.4.1 Measurement, management and appraisal

There was some ambivalence with regard to the use of the term "performance measurement" in the literature. Some sources clearly associated performance with process.

**Performance**: Effectiveness of the provision of services by the library and the efficiency of the allocation and use of resources in providing services.

ISO 11620 1998: 3

There was also, however, strong evidence in literature for the view that performance was a human resources matter. When Renton wrote that the purpose of performance management was “…to maximise the contribution of every employee who can add value to the success of the business" (Renton, 2000: 41) he was clearly considering the human resources approach to performance.

This research study conducted its investigation of performance with regard to the evaluation of process rather than with appraisal of people.
3.4.2 Performance models

Performance modelling was useful for making sense of complex business operations. Modelling also indicated a perspective from which the performance could be evaluated.

- Input – output models

One of the best known performance models was expressed as a linear relationship between input, output and outcome, particularly with regard to the resources needed to produce the output or outcome (King Research, 1990: 4). This procedure was not unlike Porter's value chain, with its model explaining how businesses received raw materials as input, added value to the raw materials through various processes, and sold finished products to customers (Lewis, 2000).

The contribution of King Research to the traditional model was the proposal of the fourth dimension, the impact within the context of the population of potential information users. Abbott (1994: 17) suggested that the impact or "higher order effects" were difficult to assess, and the results subjected to variables beyond the library's control. Town (1998: 86) urged that despite inherent difficulties with measurement of impact, this remained a goal of performance measurement. Adams, Bloor, Collier, Meldrum and Ward (1993: 20) recognised the importance of higher order effects of information services, but in view of the difficulty with measuring impact, they suggested that performance assessment be based on perceptible and immediate results of the use of information resources.

- Multiple constituencies

Cullen (1998: 7) traced the development of models from simple analysis of library statistics through several metamorphoses to the decision support systems and service quality models that were popular towards the end of the 20th century. She showed how Cameron's taxonomy encompassed four models of performance: the goal attainment model, the systems resources (or external systems) model, the internal processes (or internal systems model), and the multiple constituency (or constituency satisfaction) model. She also mapped prevailing business strategies onto this taxonomy (Cullen, 1998: 8) and showed how each strategy was related to one or more historical performance model.
Cram proposed a conceptual framework that brought stakeholders into association with the information services in a four-part relationship (Cram, 2000). The proposed model incorporated the library, the spatial context in which the library operated, the stakeholders, who interacted among themselves as well as with the library, and the monitoring and evaluation process itself.

The formulation of the multiple constituency satisfaction taxonomy was a synopsis of existing models; it did not halt the search for new models and approaches to evaluation of key business processes. Cullen's mapping of Cameron's taxonomy at the Second Northumbria Conference exposed the search for a fully inclusive model (Cullen, 1998: 8).

The multiple constituency model was the motivation for the identification of key performance measures (Kaydos, 1999: 40). It was also the basis of the balanced scorecard modelled by Kaplan and Norton in the final decade of the 20th century.

- The balanced scorecard

The balanced scorecard predicated four perspectives that together expressed the full spectrum of corporate activity. These were identified as financial perspectives, customer perspectives, internal business perspectives, and innovation and learning perspectives, each having its own set of goals and measures (Kaplan & Norton, 1992: 72). This model created an inclusive approach to performance evaluation by making accommodation for the deployment of the capital and human resources available to the enterprise. The balanced scorecard extended the scope of multiple constituency models to include the perceptions of value held by shareholders and customers (Kaplan & Norton, 1992: 72). Concerns of management for financial accountability and profit margins were balanced with customer relations, operational efficiency and staff capacity.

Lakos (1999) wrote that the balanced scorecard was an attempt to bridge a gap between management objectives and operational objectives identified by the operators themselves. The determination of internal process measures challenged operators and managers to determine the key areas in which the units or organisations were expected to excel (Kaplan & Norton, 1992: 72; Kaydos, 1999:
Kaplan and Norton (1992: 73) insisted that vision and mission must be translated into operational processes that impacted most directly on customer satisfaction. The attention to innovation and learning provided for the estimation of sustainable growth in a competitive market (Kaplan & Norton, 1992: 75).

At the time that this research report was prepared there was no clear direction from Cullen, Cram and other information specialists about the way in which this model would cause them to modify their performance models. Some attempts to apply the balanced scorecard to the information sciences were reported to the Third Northumbria Conference as case studies (Lakos, 1999). It was anticipated that this topic would be featured in the Fourth Northumbria Conference in Boston in September 2001 (IFLA).

3.4.3 Performance measures and performance indicators

King Research (1990: 11) distinguished between performance measures as numerical values and performance indicators as measures to be viewed in relation to each other. This distinction persisted in Adams et al. (1993) but was not detected in the later literature on the subject of performance measurement.

Some definitions of performance indicators avoided difficulties with a distinction between measures and indicators but still managed to suggest that an indicator was derived from or applied with regard to statistical data or measures:

**Performance indicator**: Numerical, symbolic or verbal expression derived from library statistics and used to characterize the performance of a library.

ISO 11620 1998: 7

Some definitions were clear about the derivation of indicators from viewing performance measures in relation to each other.

Performance indicators are created by comparing quantitative data elements in different combinations. The purpose of the indicators is to analyse data in order to clarify the output and outcome of the library services and see how well the library is performing.

Bruusgaard, 1995?
Performance indicators were also regarded as the means which library and information services measured operations against the mission, the goals and the objectives of the library (ISO 11620 1998: 7; Creaser, 2000: 31)

Lists of performance indicators were prepared under the auspices of various international agencies. The International Organization for Standardization (ISO) released ISO 11620 in 1998. The European Commission supported a number of projects including EQLIPSE and EQUINOX, a project to devise a set of indicators that would be complementary to existing lists and that would concentrate on digital transactions. In its final selection of indicators published in November 2000 EQUINOX omitted the indicator cost per user from the draft list published in July 2000 not on account of inappropriateness but in recognition of the importance of this indicator in the ISO list of performance indicators (EQLIPSE, 2000: Appendix 2). Other initiatives at this time were the development of lists of performance indicators in public service departments. In the United Kingdom (UK) quality and performance indicators for the National Health Service were published in July 2000 and were available online (http://www.doh.gov.uk/nhsperformanceindicators). Performance indicators by the UK Audit Commission and the Improvement and development Agency were published online for comment (http://www.local-pi-library.gov.uk) and in New Zealand the Ministry for the Environment in New Zealand advised that performance indicators would be available by the end of 2000 (http://www.environment.govt.nz).

Management with reference to performance and performance indicators was also legislated for the South African public services. In January 2001 the new Public Service Regulations were promulgated (Government Notice R.1 of 5 January 2001) and in June 2001 the South African Ministry for Provincial and Local Government published its draft Municipal Performance Management Regulations. Section five of these draft regulations contained a set of general key performance indicators expressed in terms of optimal performance (General Notice 1430 of 5 June 2001).

3.5 Quality assurance

Measures and indicators were seen to operate in the evaluation of libraries with regard to quality and effectiveness of the services and efficiency of the uses of the
resources of the library (ISO 11620 1998: 7). The literature indicated that there was some ambivalence over the concept quality. Moore (2001: 26) wrote that while most professionals viewed quality as an issue of expertise, the business world regarded it more in terms of service delivery.

The contributions of Berry, Parasuraman and Zeithaml that were embodied in the 1988 SERVQUAL model were essentially related to customer expectations, with customer perceptions of service and with the distance between these (Nitecki, 1997). So-called gap analysis was a popular theme in studies of quality and services marketing as a result of this model (Chen, Gupta & Rom, 1997; Nitecki, 1997). The principles of customer-driven quality service continued to receive attention from Berry and Parasuraman (1997) and others (Moore, 2001: 26).

Quality as a function of service delivery was associated also with the management practice total quality management (TQM), with the work of W Edwards Deming, and with Crosby's zero defect principle (Moore, 2001: 29).

Total quality management can be summarised as an obsession to improve wherever possible and continual measurement of that progress.

Moore, 2001: 31

Quality assurance developed from the principles of TQM that ensured service delivery to customers, concentrating particularly on processes (Moore, 2001: 32). Moore suggested (2001: 32) that these principles were embodied in the international standard ISO 9000 that was published in 1987 as a guide to quality management systems.

3.6 Problems with performance models

Shortcomings in the principles and practices of performance evaluation in information literature did not go unchallenged in the literature. Calvert and Cullen (1992) noted that performance measures were not widely used and Cullen questioned whether there was evidence that academic debate of performance models had ever improved performance (Cullen, 1998: 5). Cram (1996) stated that data collected to evaluate performance was often under-utilised. Town (1998: 82) suggested that measurement might even detract from performance.
The concern that performance modelling was an academic exercise rather than a useful operational procedure was expressed as early as 1985:

The methodological and “philosophical” literature on evaluation is distressingly repetitious. Writers in one field exhume the same dead horses that writers in a second field interred years before.

Glass quoted in Cronin, 1985: 6

It was learned that measurement practices were imposed in some instances without attention to operator training:

Each cycle brings new definitions and new priorities. Seldom is the need for a change in terminology and priority explained in any detail. Governments do not take time to discuss the shortcomings of the earlier reforms. They simply issue a new set of guidelines and training manuals and get on with the task of selling the latest reform.

Winston, 1999

Perrin (1998) wrote of lack of consensus over definitions, use of meaningless or irrelevant measures and deliberate disguising of unpalatable information as examples of the misuse of the practice of performance measurement. The observations of Winston and Perrin touched on problems with the measurement technique as well as the imprecise definition of what was to be measured. These flaws appeared to have arisen from failure to determine the purpose for measuring operational process, and also from a failure to determine the use to which the findings were put.

3.7 Implications of performance evaluation literature for this study

3.7.1 Contribution of King Research

The attention to detailed analysis and categorisation of numerical values in the 1990 report by King Research, Keys to success was considered to be influential in the development of performance-based procedures. Davies (2000: 169) said that the approach constituted: "...a landmark work on performance assessment in public library services.", and Crawford wrote:

This was the first successful manual of performance indicators for public libraries and was published with the intention of encouraging public libraries to use quantitative methods of setting and assessing performance standards.
Keys to success was seldom cited in performance literature. One of the reasons for this may have been the perception that the measures and indicators identified by King Research were restricted to a linear (input – output) model that lacked the sophistication to interpret complex relationships. Keys to success was, however, one of the more significant of the resources used by this researcher in understanding the nature and purpose of performance measures and indicators with regard to business processes.

King Research (1990: 11) identified 21 performance measures that corresponded with the core operational activities in the linear process model: input, output, outcome, and impact. These were identified as service input costs, service output measures, service effectiveness and service domain measures.

- Service input costs related to monetary and human resource costs (King Research, 1990: 11) and included attributes such as staff qualifications and experience that influenced the quality and effectiveness of both input and output measures (King Research, 1990: 7, 13);
- Service output measures related to quantitative and qualitative aspects of output such as timeliness, availability and accessibility of service (King Research, 1990, 11);
- Service effectiveness measures related to use and usefulness (King Research, 1990: 11);
- Service domain measures related to penetration of the services beyond the current users with relation to potential users (King Research, 1990: 12)

King Research also identified 16 general performance indicators that were categorised according to the purpose for which the core operational activities were evaluated, namely operational indicators, effectiveness indicators, cost effectiveness, and impact indicators (King Research, 1990: 27). The last–named of these operational areas, that relating to real users in relation to potential users, was perceived to be less significant in the evaluation of corporate support services and was not investigated further. The first three operational areas and their 13 associated performance indicators were perceived to be relevant for the purposes of this study, namely the determination and demonstration of value of corporate library and information services in a legal environment.
It was stated above that performance indicators were seen to be measures brought into a relational context. When input measures were related to output measures the resulting operational performance was indicative of productivity (King Research, 1990: 27; Adams et al, 1993: 22). Similarly output measures related to use yielded an indication of service effectiveness (King Research, 1990: 37; Adams et al, 1993: 22). Use related to input measures indicated cost-effectiveness (King Research, 1990: 49; Adams et al, 1993: 22).

The measures and indicators considered to be most appropriate in evaluation of the library and information services in a South African law firm were seen to aggregate at two points: input costs and use. Use and usefulness could be said to relate directly to the perception of value and quality of a service and were therefore critical to any evaluation study. Service value in a business enterprise could not, however, be separated from the cost to the organisation to maintain such a service. It was therefore from cost and cost-based measures and indicators of performance and service excellence that this research study commenced its in situ investigations.

3.7.2 Quality and service delivery

Moore (2001: 26) wrote that quality was viewed in the business world in terms of service delivery. Service delivery was the concern of Berry, Parasuraman and Zeithaml in their SERVQUAL and gap analysis models (Chen et al, 1997). This researcher viewed the determination of delivery in relation to service expectations to be highly desirable and it was her intention to attend to this by means of a use and user satisfaction study. The results of the study of operational value are reported in Chapter four.

The study of performance measurement in relation to service delivery was seen to operate where quality assurance aimed for optimal performance and a commitment to rigorous self-improvement (Moore, 2001:). The principle of "zero defect" that was implemented in certain academic libraries (Willemse, 1996: 29; Cram, 2001) was a practice that was highly desirable in the provision of legislative and judicial resources to legal practitioners where accuracy was a critical factor. It was a principle that was applied in the determination of a management plan to determine and demonstrate value of corporate information services that is described in Chapter nine of this research study.
3.7.3 Findings with regard to the theoretical basis for research studies

The purpose for which this study was initiated was context specific. The initial focus on determining and demonstrating value influenced both the selection of literary material and its application in the development of in situ studies.

Performance models were seen by this researcher to have little relevance at operational level. They were considered more from an appreciation of the merit of applying rigorous criticism of all performance literature, and for an appreciation that there was a progression from academic modelling through to business and public service application of the most useful models and methodologies.

Published lists of performance measures and indicators, including those made available on the Internet, had more validity for this research study. The measures and indicators considered to be most appropriate in evaluation of the library and information services in a South African law firm were seen to aggregate at two points: input costs and use. Use and usefulness could be said to relate directly to the perception of value and quality of a service and were therefore critical to any evaluation study. Service value in a business enterprise could not, however, be separated from the cost to the organisation to maintain such a service. It was therefore from cost and cost-based measures and indicators of performance and service excellence that this research study commenced its in situ investigation.

Cost-based measures of performance were identified as those that centred on productivity and on cost effectiveness. Productivity was seen to be the relation of output to input costs (King Research, 1990: 27; Adams et al, 1993: 22). It was speculated that this performance indicator might be related to the return on the capital invested in the library and information services that would be significant in the demonstration of value of these services.

Cost effectiveness was shown to subsist in the relationship between use (or outcome) and input and to find expression in applying the performance indicators cost per use, cost per user, cost per capita and cost by satisfactions levels (King Research, 1990: 49; Adams et al., 1993: 22). Of these cost per user emerged as one of the most pervasive of indicators of cost effectiveness of corporate library and information services. It was assumed that a study of costs in relation to users would
motivate the cost-effectiveness of the information services and add support to the demonstration of their value to the organisation.

3.8 Summary

Value was defined in economic terms of cost and price. Distinctions were made between utilitarian value and exchange value, and between the apparently opposing themes of demand and supply.

Performance modelling was introduced with reference to both linear and multiple constituency models like the balanced scorecard.

Performance measures and indicators were defined and were perceived to have relevance by organisations and public service institutions in various parts of the world. The influence of King Research was acknowledged in the development and applications of cost-based measures of performance in the library of a South African law firm.

Cost-based measures of performance were identified as those that centred on productivity and on cost effectiveness. The following chapter considers an exercise to test the assumption that a study of costs in relation to users would motivate the cost-effectiveness of the information services and add support to the demonstration of their value to the organisation.