International Business Profile Benchmarking for the SME Sector—Does it Work?

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Abstract

The quality movement internationally has been subject to criticism on the basis that it has promised much more than it has delivered. However, the literature is more densely populated with success stories than with rigorously analysed cases where the successes were less complete than had been hoped, or indeed promised. There is some evidence that the small and medium-sized enterprises have been particularly poorly served by the various ‘quality drives’, ‘quality initiatives’, ‘quality improvement programs’ and other offerings which have attracted the word ‘quality’ to their title.

This paper seeks to explore some of the issues surrounding quality in the SME sector and presents the results of an exploratory study of the use of an international business profile benchmarking tool. This instrument has the potential to identify the relative strengths and weaknesses of small and medium sized companies by comparison with their international counterparts of a similar size, turnover, number of employees and industry sector. However, it is an instrument that was developed for the United Kingdom environment and one of the key questions to be addressed is whether this instrument is valid and reliable in the Australian business, fiscal and cultural environment.

Introduction

The quality movement has attracted considerable criticism in the late 1990’s as a result of a perception that ‘quality’ promised much to many business enterprises, but failed to live up to that promise in many cases. There continues to be significant debate within the practitioner and academic quality fraternity about the merits and otherwise of the varying approaches to quality improvement and its implementation. Furthermore, there is no really clear and universally accepted definition of what constitutes a ‘TQM programme’. This raises questions about much of the survey research about the effectiveness, or otherwise, of ‘TQM programmes’. Nevertheless, whether there is a coherent definition or not, surveys are conducted. A number of these are reported in Choi and Behling (1997) and Zhu and Scheuermann (1999). These papers cite a number of surveys, including those carried out by the American Electronics Association, McKinsey & Company and ‘The Economist’. In the main, the outcomes of these surveys reflect poorly on the success of quality improvement activity.

In many cases, the results suggest that over half of those responding to the survey consider that there has been little or no return from the investments in quality improvement activity. This rises significantly when the respondents who consider that the quality programme failed to deliver what had been promised are included. Most of the survey activity has taken place in the UK or the
United States, but anecdotal evidence suggests that the picture may be very similar elsewhere. Further evidence is provided by Davis (1997) and Hubiak and O’Donnell (1996). This is supported by the ‘flight from quality’ (Dalrymple et al. 1999) which has been evident in what was the international ‘Quality Awards’ movement. In many cases, the word ‘quality’ has been replaced by the word ‘excellence’, with the explanation that the word ‘quality’ no longer reflected what the national and international organisations saw as their role. To date, however, the European Foundation for Quality Management and the Australian Quality Council retain the word ‘quality’ in their title.

The problems of the ‘quality’ movement are compounded by the spectacular failures which have been experienced in the case of companies which have aspired to win and have won prestigious quality prizes. These include the bankruptcy of the Wallace Company and the restructuring of Florida Power and Light. Iaquinto (1998) made a detailed study of 31 companies which had been winners of the Deming Prize in Japan between 1964 and 1990. The conclusion that Iaquinto came to was that, if a company, which was well managed and had a history of quality improvement, entered for the Deming prize, it was likely that such a firm would be able to continue to sustain the standard of performance in the years after participation in the competition. If, on the other hand, the firm had very little experience of sustained quality improvement effort, entry into the competition for the Prize carried with it significant potential dangers. These include devoting too much management time and effort to focus on winning the prize and not enough directed to running the business. Hausner and Arndt (1999) found that, in a study of Australian companies, those with a high Australian Quality Awards score were much more likely to belong to the best performing organisations. These authors also found that an increase in the Awards evaluation score is strongly associated with an improvement in an organisation’s most important business results.

The general picture, then, of the successes and failures of the quality movement is one of a mixture of experiences. However, much of the experience which has been gained by studies of the kind cited here come form the large enterprise sector. In many cases, the firms involved have been multi-nationals which have been able to apply significant resources to the pursuit of quality improvement, meeting awards criteria etc. In any economy, the vast majority of firms are not of that scale. Most economies are made up of a majority of small and medium-sized enterprises. These enterprises, by their very nature, are more difficult to research and, hence, it is more difficult to establish the effect of quality improvement activity in this sector. However, there are a number of studies and other evidence that much of the quality improvement activity in the sector has had equally mixed success to the large company sector.

For many small and medium-sized enterprises, the first encounter with formal quality improvement has been through the introduction of quality systems. For companies which were suppliers to military customers, there had been a long history of quality systems and approval through military standards and second party certification to those standards by their defence department customers. The emergence of internationally recognised standards promulgated by the International Standards Organisation (ISO) and the national Standards Organisations in the form of ISO9000 series of standards and the consequent third party certification of conformance to the standard are much more recent. This brought the idea of formal quality systems and conformance to standards out of the military domain and into the general manufacturing environment and hence to services and the public sector. In an attempt to improve the management of quality of goods and services supplied, some governments made third party certification to ISO9000 or an equivalent a prerequisite for
vendors in public sector procurement. Large organisations also frequently viewed this as a way of improving quality and reliability in their supply chain. Consequently, the SME sector commenced its quality improvement experience with the imposition of conformance to a generic standard which many managers and owner/managers found difficult to understand and relate to their own business. This imposition, often by satisfied customers of long standing, created concern and confusion for many managers. This was followed by a number of ‘how to’ books and various guidance manuals to help the manager or owner/manager navigate the route to certification to satisfy customer demands. (Sadgrove 1994, etc.) These publications provided evidence that ISO 9000 was creating difficulty for the SME sector. Further studies (McAdam and McKeown 1999, Chittenden et al. 1998, van der Wiele and Brown 1998, Taylor 1997, Barrier and Zuckerman 1994, Brown et al. 1994) look at a variety of topics in the implementation of ISO9000 certification and TQM programmes in the SME sector. These studies from a variety of countries indicate that in this sector, the quality movement has over promised and under delivered.

The dilemma facing the owner/manager in the SME sector is that, once the decision is made that funds will be devoted to quality improvement, how does the owner manager decide which of the many areas in the enterprise would repay the investment of time and effort involved? The rational approaches usually involve an analysis of the customer complaints file or a quality cost analysis to determine the issues which are most pressing. In many SME’s, the data is often not available, or not readily available for either approach to be appropriately pursued. Furthermore, many owner/managers in this sector would prefer some sort of business case which relates to the data and information that they are familiar with. In these circumstances, there may be a case for process benchmarking to identify the potential improvements which may be achieved in some of the company’s processes. (Hewitt-Dundas and Roper 1999, Kinni 1994a, Kinni 1994b, Wiesendanger 1992).

However, the selection of the processes to be benchmarked depends on having some information about relative strengths and weaknesses of existing business processes. Attempts have been made to address this by using a number of instruments and approaches. An approach to the use of benchmarking has been developed by Bywater based on the European Business Excellence Model (Cardell and McLean 1999). This produces an OPTIMUS Report which is based on Bywater data warehouse software. The Confederation of British Industry has developed a benchmarking instrument, marketed under the PROBE brand, with London Business School and IBM Consulting (Gault 1997, Daly 1996). This instrument is also based on a facilitated self assessment, and modules exist for Manufacturing, Occupational Health and Safety and Services. These two instruments involve a scoring system based on qualitative assessments made by cross-functional teams of the company’s situation. The scores can then be compared with those on the respective databases. The International Trade Centre has developed an instrument for small business in the automotive component sector. The instrument is called the International Competitiveness Gauge (Badrinath 1998). In each case, the process enables strengths and weaknesses to be identified by comparison with a peer group.

In the UK, the Department of Trade and Industry (dti) recognised the gap which existed in the instruments available for benchmarking in the SME sector. The dti response was the development of the “United Kingdom Benchmarking Index” (Pilcher 1998). This instrument seeks to make available to companies in the range one to five hundred employees the ability to benchmark against a peer group of similar size, turnover and industry sector. The feature of the approach which made
this instrument different from those which preceded it was that it was designed to benchmark using hard financial and management data. It also incorporates a section which is based on the European Business Excellence model requiring qualitative data input. Following activities within the European Union (EU), the European Commission issued a Communication “Benchmarking the Competitiveness of European Industry”. In recognition of this EU initiative, and the increasing trend towards global purchasing on the part of multi-national firms with plants based in Europe, the dti embarked on the process of internationalising the benchmarking instrument. This paper reports on the Australian contribution to the process of internationalising the instrument.

**The Business Profile Benchmarking Instrument**

**Input Data Requirements**

The input data requirements for the generation of the profile consists of several elements which have been derived from, for example, *Management Today’s* Best Factory Awards. These are Financial Revenue and Costs, and Financial Capital which form the financial data set and the Management Data set consisting of Customer Satisfaction, Product and/or Service Innovation, Suppliers, People Management and People Satisfaction. Each of these areas has a number of elements for which data is required. Each element is accompanied in the data capture instrument by an explanatory definition.

**Financial Revenue and Costs**

1. **Home Turnover**: is defined as the value of all services rendered and goods or equipment sold in Australia.

2. **Export Turnover**: is defined as the value of all services rendered and goods or equipment sold overseas.

3. **Pre-tax profit**: is defined as the net trading profit figure after deduction of all operating expenses and income including:
   - Director’s remuneration
   - Dividends received from subsidiaries
   - Share of profit/loss from related companies
   - Depreciation
   - Interest Paid
   - Allocations to employee share scheme
   - Exceptional items but before:
     - Income Tax
     - Dividends
     - Extraordinary items

4. **Depreciation**: is the allocated part of the cost of the fixed assets for that accounting period.

5. **Value of bought in materials**: is defined as the cost of all bought-in-materials and services required for the productions of the finished product/service. It does not include utility costs.

6. **Employee remuneration**: is defined as the amount paid in wages and salaries (gross), including individual bonuses. It excludes company contributions to pension schemes and other fringe benefits to employees. Where possible the figures for employee remuneration should be adjusted to eliminate the possible bias introduced by director’s emoluments.
R & D expenditure: is defined as the money invested in R & D, including development expenses but excluding any capitalised expenses. It includes time and expense incurred in product and/or service development.

Training expenditure: is defined as all expenditure on training, both internal and external.

Marketing expenditure: is defined as the money invested in all marketing activities (excluding direct sales costs).

Interest paid: is defined as the gross interest paid by the company.

**Financial Capital**

1. Fixed assets: is defined as tangible assets whose life is spread over a number of periods, including property, plant, fixtures and fittings, office equipment, etc., all at their net book value (cost less accumulated depreciation). This will include leased and capitalised assets and for some industries, assets held for renting or hiring out.

2. Capital investment: is defined as the money spent on all capital equipment for the year.

3. Stocks/inventory: is defined as trading stocks or work in progress net of progress payments. Use the most recent require in audited accounts.

4. Debtors: is defined as trade debtors and trade bills receivable due within one year.

5. Cash-in-bank: is defined as the liquid funds shown in the Balance Sheet.

6. Total assets: is defined as the sum of the total current assets, fixed assets and other assets.

7. Creditors: is defined as trade creditors and trade bills payable within one year.

8. Short term loans: is defined as the short-term portion of the company’s total debt including:
   - Bank overdrafts
   - Current portion of bank and other institutional loans payable within one year
   - Hire purchase and leasing obligations that appear payable within one year
   - Acceptance credits

9. Other current liabilities: is defined as including sundry creditors, accrued expenses and pre-paid income, including dividends, company tax and other sundry amounts payable within 12 months.

10. Long term loans: is defined as the company’s total debt, including bank and other institutional loans of over one year, repayments (including mortgages) and the portion of hire purchase and leasing obligations payable over one year.

11. Other long term liabilities: is defined as including minority interests, pension funds and similar liabilities, deferred and future taxation.

12. Shareholder’s funds (equity, net worth): is defined as including issued ordinary and preference share capital, revenue and capital reserves, the profit and loss account balances as well as government grants.

**Customer Satisfaction**

1. Number of customers: is defined as the number of customers who have placed orders with the organisation last year.

2. Number of orders: is defined as the number of orders received last year. In the case of multiple call off or blanket orders, count the number of orders raised.

3. Number of orders not delivered when promised: is defined as the number of orders not
delivered against their quoted delivery times.

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<td><strong>Number of customer complaints</strong>: is defined as the number of recorded complaints received last year.</td>
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<td><strong>Order value of customer complaints</strong>: is defined as the order value of the recorded complaints.</td>
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<td>6</td>
<td><strong>Orders failed before delivery</strong>: is defined as the number of orders for products and/or services which do not meet specified standards of work and are failed before delivery to customers last year.</td>
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<td>7</td>
<td><strong>Orders rejected by customer</strong>: is defined as the number of orders for which the products and/or services do not meet specified standards of work and are rejected by the customer during the specified warranty period.</td>
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**Product and/or Service Innovation**

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<td>8</td>
<td><strong>Turnover from new products/services</strong>: is defined as the turnover generated from new products or services launched in the last year. It does not include minor modifications to existing products or services.</td>
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<td><strong>Turnover from new market segments</strong>: is defined as the turnover generated from new market segments entered within the last year. This may include, for example, entry into a new business area, or new applications for the product or service. It must be an area that has been formally developed by the organisation as the result of a strategy decision.</td>
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<td><strong>Turnover from new geographical markets</strong>: is defined as the turnover generated from new geographical areas (Australia and overseas) in the last year. It must be a geographical market that has been formally developed by the organisation as the result of a strategy decision.</td>
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<td>11</td>
<td><strong>Number of new customers</strong>: is defined as the total number of new customers supplied over the last year.</td>
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**Suppliers**

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<td><strong>Number of suppliers</strong>: is defined as the annual number of trade suppliers used for direct production purposes, or service provision to customers, during the last year. Suppliers for indirect goods and services eg stationery for administration are excluded.</td>
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<td><strong>Value of supplies delivered on time</strong>: is defined as the annual value of supplies delivered to agreed schedules.</td>
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<td><strong>Value of supplies rejected at delivery</strong>: is defined as the overall value of supplies which do not meet the specified standard and are rejected at delivery.</td>
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**People Management**

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<td><strong>Number of Managers</strong>: is defined as the number of people who have responsibility for managing other people.</td>
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<td>16</td>
<td><strong>Number of management levels</strong>: is defined as the number of management levels including first line supervisors and directors.</td>
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Total number of days training per year: is defined as the total annual number of days training provided in the work area and in the classroom, externally and internally.

Number of new employees: is defined as the total number of new people who joined the organisation in the last financial year.

Number of graduates: is defined as the number of people who have a higher diploma, degree or masters or doctorate qualification. It includes all graduates, not just new starters.

Employees directly involved in provision of service/product: is defined as those people who directly contribute to the operation and delivery of the product or service.

People Satisfaction

Number of leavers: is defined as the total number of people who left the organisation in the last year – voluntarily, involuntarily, retirement etc. It excludes seasonal and temporary staff.

Number of leavers within 6 months: is defined as the total number of people who left the organisation in the last year, within 6 months of their start date. It excludes seasonal and temporary staff.

Absenteeism rate (number of days): is defined as the total number of days lost in the last year, due to any cause, excluding annual leave, public holidays and statutory entitlements.

Number of accidents/incidents: is defined as the number of accidents/incidents reported to the Health and Safety Record Book, during the last year.

Business Excellence

The business excellence elements relate to the headings recognised by the international business excellence community, namely: Leadership, Policy and Strategy, People Management, Resource Management, Business Processes, Customer Satisfaction, People Satisfaction, Impact on Society, Business Results. The data relating to these elements are qualitative data which depend on the management's perception of anything from three to five questions which have multiple choice answers.

The data requirements are, therefore, not excessively onerous for the small and medium companies. The financial data would be of the type that would be routinely collected for statutory reporting to the taxation authorities. Other data elements would be required for statutory reporting purposes, for example, under the occupational health and safety legislation. The data can then be used to produce comparisons with international companies which have a similar turnover, number of employees operating in a common industry sector.

The Output Report

The output of the comparisons is contained in a report which provides a graphical comparison and a table showing best in class, worst in class, lower and upper quartiles and the average for the following measures:

Profitability

Pre Tax Profit / Turnover (Profit Margin, %), Return on Capital Employed (ROCE, %), Return on Net Assets (RONA, %), Return on Total Assets (ROTA, %), Value Added ($), Value Added / Net Assets (%), Turnover / Orders
Financial Management
Short Term Assets / Current Liabilities (Acid Test, #), Gross Gearing (%), Net Gearing (%), Short Term Debt / Long Term Debt (%), Pre Tax Profit / Interest (Interest Cover #), - Credit Payment Days, Debtor Days (*), Stock Turnover (#), Cash in Bank / Turnover (%), Turnover /Working Capital (#)

Productivity
Turnover / Overheads (#), Turnover per Employee ($), Value Added per Employee ($), Pre Tax Profit per Employee ($)

Investment
Capital Investment / Turnover (%), Capital Investment / Depreciation (%), Marketing Expenditure/Turnover (%), R&D Expenditure / Turnover (%), Training Expenditure / Turnover (%), R&D Expenditure / Pre Tax Profit (%), Capital Investment / Pre Tax Profit (%)
In all cases, two years of data are collected for the financial data. This enables an indicator to be provided for comparisons with growth year on year.

Growth
Turnover (% Growth), Pre Tax Profit / Turnover (% Growth), Return on Net Assets (% Growth), Return on Capital Employed (% Growth), Capital Investment / Turnover (% Growth)

Customer Service
Complaints/Orders (%,*), Complaints / Customers (#), Order Value of Complaints/Turnover (%,*), Orders Not Delivered When Promised/Orders (%,*), Orders Rejected During Warranty/Orders (%,*), Orders Failed Prior to Delivery / Orders (%,*)

Innovation
Income From New Geographies/Turnover(%) , Income From New Market Segments / Turnover(%) , Income From New Products / Turnover (%), New Customers / Total Customers (%), Total New Income / Turnover (%).

Suppliers
Sub Standard Supplies / Bought In Materials (%,*), Supplies Delivered On Time/Bought In Materials (%), Turnover/No of Suppliers ($), Bought In Materials / No of Suppliers ($).

People Management
Directs / Indirects (#), Employees / Managers (#), Graduates / Employees(#), Number of Management Levels (#,*), Total Training Days / Employee (#), Training Expenditure / Employee ($)

People Satisfaction
Total Days Lost to Absenteeism / Employees (#,*), Accidents / Employees (#,*), Early leavers / Employees (#,*), New Employees / Employees (#,*), Total Leavers / Employees (#,*).

Thus, the report provides the company with a comprehensive set of comparisons of financial and non-financial management data. The report must then be interpreted in the context of the company and its markets, environment and operations. Appropriate and skilled interpretation enables the owner/manager to identify strengths and weaknesses of the company and this enables the selection of improvement opportunities on a rational basis. The tracing of indicators at the macroscopic business level down to operational level enables potential causes of reduced competitiveness to be
identified. Action plans can then be drawn up to seek to remedy these causes and improve the overall competitiveness of the enterprise.

**Internationalisation**

The benchmarking instrument is a measuring device for comparing a wide range of characteristics of a company's performance with an international peer group. In these circumstances, it is essential that any comparison that is made does compare like with like. Otherwise, the information which is derived from the comparisons will be, at best, misleading. There are a number of factors which may impede appropriate comparison. These can be broadly categorised as currency exchange rates, accounting practices, the fiscal environment and local custom and practice. Each of these may distort some of the measures and render them inappropriate for comparison.

**Currency Exchange Rates**

Currency exchange rates fluctuate daily in the international currency markets. Many of the elements in the data capture instrument are financial measures. If the comparison of a company's performance on the basis of financial measures is strongly influenced by the choice of exchange rates, then the reliability of the instrument will be poor. Clearly, a company's competitive position is unlikely to genuinely fluctuate on a day to day basis and marginal exchange rate fluctuations do not, in reality, bring about radical changes in relative competitive position. The validity of this business profile benchmarking instrument depends on that reality being reflected in the measurements which are produced by the instrument. The reliability of the instrument depends on the same input data producing consistent output data in successive trials.

**Accounting Practices**

There are variations in accounting practices which may result in data inputs not being genuinely comparable. In those circumstances, the instrument may be measuring the effect of the variations in accounting practice, rather than the competitiveness of the firm. This may manifest itself as either poor performance or very good performance on the part of all of the firms which are subject to favorable or unfavorable treatment under the prevailing accounting practice. It is likely that, if one measure is skewed to good performance, another measure will be skewed in the opposite direction.

**Fiscal Environment**

The fiscal environment may encourage certain behaviour in the way that, for instance, expenditure is allocated. For example, if there is a fiscal environment which encourages research and development activity by the provision of advantageous tax concessions, product and process development may be classified as research and development. In the absence of such concessions, these costs may not be recorded separately and may just be accounted for as part of the fixed costs associated with a particular order. Comparisons of research and development expenditure become less reliable if these differences exist.

**Custom and Practice**

Custom and practice issues may result in comparability of data being undermined. For example, if the custom and practice in one environment precludes accumulation of annual leave past the year in which leave entitlement is earned, and elsewhere, such an accumulation is common practice, this will have implications for comparability of both employee remuneration and current liabilities. The effects of custom and practice issues must be explored to ensure that the instrument is not measuring differences arising purely from custom and practice, rather than competitiveness.
The Australian Experience

The pilot study in Australia consisted of an extensive sensitivity analysis of the effects of variation in currency exchange rates, consultations with experts in international accountancy, and a study involving 30 small and medium-sized firms in North Melbourne. All companies in the study had fewer than 500 employees, with the majority having less than 50 employees.

Currency Exchange Rates

The fluctuations in the exchange rates of the Australian $ against sterling, the currency of the business profile instrument, have been rather large over the past two years, ranging from a little above 33 pence to the dollar to almost 50 pence. These are not marginal fluctuations, but over a period of a few recent months, exchange rates have fluctuated around 40 pence to the dollar and remained within a band 39 to 41 pence to the dollar. However, the effects of exchange rate are ameliorated for most of the measures, since they are ratios and the exchange rate effect is nullified. In the course of sensitivity analysis, the ratios remained constant for varying exchange rates, as would be expected. For large changes in exchange rate, the measures which were represented currency units were observed to move by up to two quartiles as the exchange rate ranged from around 35 pence to 50 pence to the dollar. However, for the range 38 to 42 pence, the rank order of the firm was observed to change by only a few places in the ranking. This sensitivity analysis was repeated for the first ten companies in the study.

Accounting Practices

Consultations with an expert in the field of accounting and with a practicing manager who had experience of the international corporate environment indicated that any variation in accounting practice would have, at most, a marginal effect on the comparison of Australian and UK based companies.

Fiscal Environment

There were considered to be no obvious significant differences in the fiscal environments under study which would adversely affect comparability of measures. However, vigilance was essential to ensure that any artifacts of the data which would be indicated by skewing in the output comparisons, was detected.

Custom and Practice

In the course of the study, it became apparent that all Australian companies were performing poorly on two of the measures. Further investigation suggested that, in Australian firms, employee remuneration is not settled in the year in which it is earned. This is due to two custom and practice factors, namely the ability to accrue annual leave, and long service leave provision. This may be the reason for one of the measures being skewed. The second factor is the custom and practice among the workforce to regard sick leave entitlement as an additional element of leave entitlement. The Australian companies, in general, did not achieve particularly good rankings on the ‘absenteeism’ comparison.

Conclusions

The International Business Profile Benchmarking instrument which was initiated in the UK and has been developed into a diagnostic instrument for European small and medium-sized firms has been successfully piloted in Australia. The owner managers of the Australian companies which participated in the research programme confirmed the validity of the instrument for their particular
business. The reliability of the instrument was extensively tested and sensitivity analysis provided evidence of marginal sensitivity to the sort of exchange rate drift which take place over several months. There remains further research to be conducted. Firstly, the use of moving average of exchange rate must be trialled so that a consistent approach can be adopted for all international participants in the profile benchmarking database. Secondly, the matters identified under custom and practice issues must be further researched to enable appropriate data transformation to be carried out, making the international data comparable. Thirdly, the companies which were involved in the pilot study must form part of a longitudinal study to establish whether the instrument made a significant contribution to improvement in the performance of the firm in its markets.

This final research programme may establish whether the instrument is indeed capable of identifying where improvement investment can be targeted to best repay the investment of time, money and effort. Success in this field would provide the SME sector with a genuinely useful diagnostic tool which may enable the quality drive to deliver what it has promised to companies in the small and medium enterprise sector.

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About the Author

John Dalrymple began his professional career as a physicist, graduating as the first physics graduate of the University of Stirling in Scotland. He then moved to the University of Strathclyde in Glasgow to undertake Doctoral research in the field of wastewater treatment before joining the Management Science Department at the University of Stirling. As a management academic, John began to work on projects with industry. John moved to Australia to take up the Computing Devices Professorship of Quality Management and Founding Directorship of the Centre for Management Quality Research at RMIT in November 1997. The Centre is now recognised internationally.