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# An investigation of the adoption and implementation of benchmarking

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## Abstract

**Purpose** – The purpose of this paper is to use survey data collected from 453 respondents, from over 40 countries, to determine the current levels of use of benchmarking as an improvement technique. It identifies where and how benchmarking is implemented within organisations and compares the popularity of benchmarking against other improvement tools. Finally, it provides an evidence based opinion on whether benchmarking is a fad or an established management technique.

**Design/methodology/approach** – An on-line questionnaire was used to collect data. The questionnaire was translated into five languages and promoted by the Global Benchmarking Network, a network of benchmarking competency centres, representing 21 countries. The data were then analysed using SPSS statistical software.

**Findings** – The analysis suggests that benchmarking (informal and formal) is used by a majority of organisations although best practice benchmarking is only used by a core minority. Benchmarking effectiveness compares favourably with effectiveness of other improvement tools and a majority of respondents intend to continue using benchmarking in the future.

**Research limitations/implications** – The responses from some of the countries that participated were small in number. This study also relied on a single respondent from each organisation. Inter-country comparisons were not carried out.

**Practical implications** – Benchmarking will continue to be used to support the improvement of operations. For organisations that currently use benchmarking the paper provides some insights into how to obtain the full benefits from benchmarking. For those that do not use benchmarking the paper highlights how other organisations are using benchmarking to obtain operational benefits.

**Originality/value** – The paper presents a multinational survey of benchmarking. Carried out a quarter century after the start of benchmarking's growth, it helps to establish if benchmarking is an established improvement tool or a management fad. It also positions benchmarking relative to other improvement tools and is the most complete study on benchmarking adoption to date.

**Keywords** Benchmarking, Operations management, Quality management

**Paper type** Research paper



## Introduction

Benchmarking was one of the most popular and widely adopted management techniques of the 1980s and 1990s and it gained a lot of credit for helping organisations to improve their competitive advantage.

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Twenty-five years after the prominence of benchmarking in the mid-1980s the Global Benchmarking Network (GBN) initiated a project, undertaken by researchers in universities in New Zealand and the UK, to evaluate the current status of benchmarking worldwide. The GBN is a membership-based association consisting of benchmarking competency centres from 21 countries. This project included a multinational survey of benchmarking awareness, use and effectiveness, representing views of respondents from more than 40 countries. Furthermore, it enabled the determination of whether benchmarking as a technique is an established operations management technique or a fad of the 1980s and 1990s.

#### *Limitations of previous benchmarking research*

According to Talluri and Sarkis (2001), benchmarking has proven to be an effective tool for organisations that seek to improve their operations. It has been described as a popular tool which was adopted universally and was found to be one of the top five management tools in a 1999 survey (Wong and Wong, 2008). The popularity of benchmarking was also evident in the number of publications associated with the concept (Dattakumar and Jagadeesh, 2003). Yasin (2002) found that more than 2,000 articles relating to benchmarking had been published in both academic and practitioner journals between 1986 and 2000. The authors found more than 1,500 benchmarking publications in academic journals. These publications show that benchmarking has been applied to a wide variety of processes and products in all types of industries and countries. Examples of processes and products that have been subject to benchmarking studies include lead benchmarking (McAdam *et al.*, 2008), financial product lending (Delpachitra and Beal, 2002), logistics (Hannan, 1997; van Landeghem and Persoons, 2001), quality function deployment (QFD; Ginn and Zairi, 2005), field services (Behara and Lemmink, 1997), hotel services (Min and Min, 1997), preventive maintenance (Chen, 1994), operating theatres (Longo and Masella, 2002), information and communication technology practice (Wainwright *et al.*, 2005) and business process re-engineering (BPR) (Yung and Chan, 2003). Other studies have focused on the application of benchmarking in particular business sectors. These sectors include higher education (Jackson, 2001), automotive (Delbridge *et al.*, 1995), manufacturing (Sweeney, 1994; Voss *et al.*, 1994), health (Fowler and Campbell, 2001), finance (Vermeulen, 2003), construction (Sommerville and Robertson, 2000; Love *et al.*, 1999) and food (Adebanjo and Mann, 2000). However, according to Fernandez *et al.* (2001), benchmarking is but one of the improvement techniques that have been used by organisations. Most of the available benchmarking publications, by focusing narrowly on individual processes or business sectors or countries, fail to enable an understanding of benchmarking from a wider perspective. In particular, there is no empirical data to indicate perceptions of how benchmarking compares to other improvement tools from the perspective of industry. Consequently, its relative levels of adoption and effectiveness remain unknown.

The authors' review of literature agrees with the earlier observation by Talluri and Sarkis (2001) that most of the literature has focused on the management and methodology for the execution of benchmarking. There have also been few studies that have focused on multiple business sectors, most have focused on one sector. Furthermore, the available multi-national studies such as those by Voss *et al.* (1997) and Meyer *et al.* (1999) have been limited in scope and/or the numbers of participating countries. In addition, it does not appear that they clearly defined the different types of benchmarking to the survey

respondents and so it is unclear as to what type of benchmarking the respondents are undertaking. Therefore, it is difficult to conclude with any certainty, how benchmarking is viewed across a range of countries and whether it is truly deployed by most organisations. While there are studies to suggest a high proportion of organisations in individual countries use benchmarking (Davies and Kochhar, 1999; Maire *et al.*, 2005; Tyler, 2005), there is no empirical evidence to suggest a high degree of deployment across many countries. Rather, there are various studies that anecdotally describe benchmarking as “popular” (Ungan, 2004; Dattakumar and Jagadeesh, 2003; Rohlfer, 2004). The paper presents findings from a study that examines current levels of adoption of benchmarking and reasons for adoption or non-adoption. It also identifies how benchmarking is deployed and the areas or processes in organisations to which it primarily applies. The study is a multinational study that had the support of 21 countries through the GBN and ultimately obtained survey responses from more than 40 countries in North America, Asia, Africa, Europe and Australasia. The study also involved organisations in multiple business sectors including manufacturing, education, government, finance, utilities, health, construction and transportation.

#### *Timing of this study*

The timing of the study is also important. The credit for developing benchmarking into the management technique it is today is given to Xerox Corporation who first started using the technique in 1979. Camp's (1989) book *Benchmarking: The Search for Industry Best Practices that lead to Superior Performance* – the first book on benchmarking – describes Xerox's processes and experiences. According to Talluri and Sarkis (2001), the growth of benchmarking practices started in the early 1980s and by the late 1980s and early 1990s, it had become a very popular management technique (Kumar and Chandra, 2001; Hinton *et al.*, 2000; Ahmed and Rafiq, 1998). According to Ahmed and Rafiq (1998), while benchmarking had been widely used by many organisations, a small but significant minority considered it to be a management fad. Davies and Kochhar (2002) also cast doubt on the ability of benchmarking to deliver improved performance. Furthermore, Yung and Chan (2003) suggested that there is a danger that organisations would discard benchmarking once initial improvements have been made.

This study was carried out 25 years after the start of benchmarking's growth and it therefore, enables understanding of whether the technique is well established as a business and operations improvement technique or whether it was a management fad of the past. This clarification is important as some studies have questioned the status and effectiveness of benchmarking although the majority of studies consider it to be an effective improvement technique.

The following section reviews the literature. Subsequent sections present the research questions, methodology and respondents' characteristics, followed by statistical analysis and discussion. The managerial implications and conclusions are described in the last section.

#### **A review of benchmarking**

The review of literature carried out in this section focuses on the issues related to the study carried out. It is not the intention of this paper to provide a broad based review of the literature on benchmarking as there are already several publications that have done this (Yasin, 2002; Kumar and Chandra, 2001; Wainwright *et al.*, 2005).

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It is important to start with an understanding of what benchmarking means. Talluri and Sarkis (2001) suggested that benchmarking is still not well defined. According to Nandi and Banwet (2000), 49 definitions for benchmarking had been found. Anand and Kodali (2008) attributed the variations to emphasis on different themes such as measurement, comparison, identification of best practices, implementation and improvement. However, Anderson and McAdam (2007) argued that that many of the definitions essentially share the same common ideas. They proposed two indicative definitions which are as follows:

Benchmarking is the search for industry best practices that will lead to superior performance (Camp, 1989):

[...] a process that facilitates learning and understanding of the organisation and its processes (Fernandez *et al.*, 2001).

#### *Criticism of benchmarking*

Although benchmarking is commonly regarded as popular and well established and beneficial to organisations, a number of studies have questioned various aspects of benchmarking perception and deployment. Fong *et al.* (1998) suggested that benchmarking suffered from a lack of consensus about its classifications and that some of the models used in deploying benchmarking had significant shortcomings. Other studies have criticised the lack of involvement of employees in the benchmarking process (Bhutta and Huq, 1999; Davies and Kochhar, 1999). Some studies have identified financial performance as the key reason for benchmarking (Maiga and Jacobs, 2004; Cassell *et al.*, 2001), but however, according to Anderson and McAdam (2004), focusing benchmarking on financial performance is backward looking and more predictive measures of performance need to be applied to benchmarking. These criticisms indicate that while benchmarking is acknowledged to be a useful technique, there are still doubts about how and why it is deployed. There is need therefore for a study to clarify the current state of the use of benchmarking.

#### *Approaches to benchmarking*

The literature on benchmarking is equally undecided about the different approaches to benchmarking. While McGaughey (2002) suggested that there are three types of benchmarking – internal, external and best practice, Behara and Lemmink (1997) classified benchmarking on the basis of what is being benchmarked (functional, performance, generic, process and strategic) or who is being benchmarked (internal, competitive or non-competitive). On the other hand, Fong *et al.* (1998) classified benchmarking on the basis of who is being benchmarked (internal, competitor, industry, generic, global), content of benchmarking (process, functional, performance, strategic) and purpose of the relationship (competitive and collaborative). However, because this study compares adoption of benchmarking to other management practices, in addition to the dangers of misinterpretation that may arise from cultural differences in a multinational study, a more widely accepted distinction between best practice (or process) and performance (or results) benchmarking is adopted. According to Hinton *et al.* (2000), a benchmarking process can be either process or performance benchmarking and they further suggested that most benchmarking carried out is performance benchmarking and not process benchmarking. Sweeney (1994) similarly asserted that the benchmarking of processes is a different task from comparing equivalent financial results. Delpachitra and Beal (2002) described process benchmarking as the analysis of

discrete work processes with the aim of identifying the most effective operating practices from many companies that perform similar work functions. Adebajo and Mann (2007) described performance benchmarking as the comparison of performance levels or results without taking into account, the practices that led to such performance.

*Formal and informal benchmarking*

Although benchmarking is considered to be a formal process involving the use of comparison approaches and models, this study took a view, based on the authors' experiences with various organisations and taking into account the view of members of the GBN, that informal approaches to benchmarking should be included. Therefore, we introduce the term "informal benchmarking" into this study. The definitions of benchmarking adopted in the survey of the two types of benchmarking, informal and formal benchmarking are as follows:

(1) *Informal benchmarking* – this is benchmarking that does not follow a process or a procedure. It refers to the type of benchmarking that everyone does at work, often unconsciously, involving comparing and learning from the behaviour and practices of others. Learning from informal benchmarking typically comes from the following:

- Talking to work colleagues and learning from their experience.
- Consulting with experts who have experience of implementing a particular process or activity in many business environments.
- Networking with other people from other organisations at conferences, seminars and Internet forums.
- On-line databases/web sites and publications that share benchmarking information provide quick and easy ways to learn of best practices and benchmarks.

The definition of informal benchmarking provided in this survey was "Actively encouraging employees to learn from the experience and expertise of other colleagues and organisations through comparing practices and processes. For example, through best practice tours, conferences, best practice websites and networking".

(2) Formal benchmarking of which there are two types – performance benchmarking and best practice Benchmarking. With these types of benchmarking, there can be a subset of internal, competitive or functional organisation comparison:

- Performance benchmarking describes the comparison of performance data obtained from studying similar processes or activities. Performance benchmarking may involve the comparison of financial measures (such as expenditure, cost of labour, cost of buildings/equipment) or non-financial measures (such as absenteeism, staff turnover, complaints, call centre performance). The definition in this survey was "Comparing performance levels of a process/activity with other organisations – therefore comparing against benchmarks".

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- Best practice benchmarking describes the comparison of performance data obtained from studying similar processes or activities and identifying, adapting and implementing the practices that produced the best performance results. The definition in this survey was “Following a structured process for comparing performance levels and learning why better performers have higher levels of performance and adapting/implementing those better practices”.

#### *The deployment of benchmarking models*

The structured nature of best practice benchmarking has led to the development of a number of benchmarking models. Behara and Lemmink (1997) identified some of the available models to include such as Baxter’s seven-step model, AT&T’s nine-step model and Xerox’s 12-step model. Partovi (1994) while identifying other models including Spendolini’s five-step model, Alcoa’s six-step model and IBM’s 14-step model, strongly argued that the core of the different models is the same. Adebajo and Mann (2007) compared different methodologies including Camp’s, Codling’s and Mann’s. While the study by Anand and Kodali (2008) acknowledged that 60 different models had been identified, they could be classified into three based on their origin. These three classifications are:

- (1) *Academic/research-based models* – developed mainly by academics with an inclination to a theoretical and conceptual perspective.
- (2) *Consultant/expert-based models* – developed from personal opinion, experience and judgment and validated using client organisations.
- (3) *Organisation-based models* – developed or proposed by organisations based on their experience and knowledge.

The large numbers of benchmarking models and the differences in their origins implies that there is little clarity or empirical data to inform academia and practitioners about the relative levels of used and perceived levels of effectiveness of the different types of models.

#### *Benefits of benchmarking*

Another dimension of benchmarking that has generated much academic debate is the level of benefits to be derived from benchmarking. There is general consensus among most academic research that benchmarking can lead to significant benefits for organisations that adopt it. A study by Voss *et al.* (1997) found a strong direct link between benchmarking and improved operational and business performance. They suggested that benchmarking promotes higher performance by identifying practices and setting challenging performance goals. It also helps organisations understand their strengths and weaknesses relative to competitors. A similar argument was made by Ulusoy and Ikiz (2001) who found that organisations that implemented more best practices were better business and operational performers. In a study of the application of benchmarking in the logistics process, it was possible to identify the logistics performances that were deficient and areas of best practice that were underused in the tested organisations (van Landeghem and Persoons, 2001). Sommerville and Robertson (2000) studied the use of benchmarks in the construction industry and found that they facilitated business performance improvements.

From the above, it can be summarized that benchmarking is highly regarded as a technique that promotes and enables operational and business improvement. Consequently, it is widely adopted by organisations of different sizes and in different sectors in many parts of the world. It also generates great academic interest particularly with regard to its nature and modes of deployment. However, 25 years after the growth of modern benchmarking began, there is a need for an empirical study to investigate the continued relevance of benchmarking as an improvement tool and consequently, determine whether its use is increasing or not. In essence, can benchmarking be considered an established management technique or has it become a fad? In addition to addressing this issue, this study provides insight into current industrial perceptions of benchmarking and why and how it is used. In the next section, a review of the literature on management fads is presented.

### **Benchmarking and management fads**

Carson *et al.* (1999) proposed the following definition for management fads:

[...] managerial interventions which appear to be innovative, rational and functional and are aimed at encouraging better organisational performance.

They further suggested that fads have a four step life-cycle comprising invention, acceptance, disenchantment and decline. They suggested that reasons for fad adoption include a need to conform and a pressure to react to market and competitor activities. Van der Wiele *et al.* (2000) asserted that most fads fade away after a short period of time. The disenchantment with fads and their short life span are encouraged by the realization that the expected benefits were not attained (Ehigie and McAndrew, 2005). Kumar *et al.* (2008) suggested that faddish ideas tend to be simple, prescriptive and transient while Naslund (2008) cautioned against following fads by suggesting that they lead to organisational problems.

However, fads are not simply good or bad and characterizing new management theories and practices as fads was described as a tactic used by critics who wish to undermine the legitimacy of new developments in management practice (Parker and Ritson, 2005; Kumar *et al.*, 2008). Many academics are in agreement that some “fads” become established management principles or techniques and according to Towill (2006), fads can become management paradigms. To make this transformation and become effective, the fad must survive over time and become incorporated in the day-to-day fabric of an organisation.

There is no empirical evidence to date to confirm or disprove benchmarking as an established management technique. However, Carson *et al.* (1999) suggested that benchmarking was a fad while Ahmed and Rafiq (1998) wrote that a minority of management theorists considered it to be a fad. The findings from this study provide evidence on whether benchmarking is indeed a fad or an established management technique. On the basis of the literature presented in this section, two criteria will be fundamental in making this judgement. First, has benchmarking survived over the past 25 years and how does it rank against other management theories and second, does it deliver operational and business benefits when adopted.

In summary, our review of literature has identified some gaps in our current understanding of benchmarking. First, there are no empirical studies that compare benchmarking to other improvement techniques, particularly across many countries. Second, while there is an acceptance that there are different types of benchmarking, there

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is no data on the relative use of the different types of benchmarking and their relative benefits. Third, there is little understanding of why many organisations are not currently using benchmarking and, therefore, potential approaches to address any obstacles are not necessarily based on empirical data.

This study addresses these issues by means of a questionnaire survey involving organisations in several countries. The study seeks to identify improvement tools that are applied and how benchmarking ranks in comparison. It also seeks to understand in what parts of the organisation and in what ways benchmarking is deployed. In addition, the questionnaire investigated employee involvement in benchmarking and obstacles to benchmarking. Consequently, it enables an understanding of how benchmarking has evolved and how it is used across several countries.

### Research aim and questions

The overall aim of this study was to carry out a multi-national study of the adoption and implementation of benchmarking and consequently, provide data to ascertain whether the technique is an established management technique. The objectives for the research were as follows:

- (1) Evaluate the levels of use and effectiveness of a range of improvement techniques and compare benchmarking with these techniques.
- (2) Present the largest study, to date, to provide an understanding of awareness and use of benchmarking across several countries.
- (3) Identify changes, over the years, to the use of benchmarking in terms of how and where it is used in organisations that have deployed it.
- (4) Evaluate perceptions of the relative effectiveness of different types of benchmarking models.

Resulting from the literature study and in support of the study aim and objectives, it was important to formulate a number of research questions. The first two questions relate to adoption of the technique and are presented as follows:

- RQ1.* To what extent are organisations using the technique of benchmarking and how does its use compare with other management techniques?
- RQ2.* What are the challenges that characterize the adoption and effective implementation of benchmarking?

From the literature we identified that early studies suggested that benchmarking could lead to operational and business benefits for adopters. However, the literature on management fads suggests that such benefits fail to materialize after the initial enthusiasm and the technique or theory in question can be considered a fad. This leads to the formulation of our third research question:

- RQ3.* What are the operational and business benefits that organisations currently attribute to the implementation of benchmarking and can we consequently conclude that benchmarking is an established management technique that continues to provide value to adopters?

The final research question relates to where and how benchmarking is carried out. This question is particularly important within an operations management context as it

enables confirmation of continuing applicability of benchmarking to operational activities in organisations. The question was formulated as:

*RQ4.* Which aspects of the organisation are the subjects of benchmarking projects and what are the context and factors that typify the deployment of benchmarking?

### **Research methodology**

The research methodology adopted for this study was the use of questionnaires. The questionnaire study was carried out between March and June 2008. The initial design of the questionnaire was undertaken by the research team. The first draft of the questionnaire was then presented at the annual meeting of the GBN in December 2007. The meeting had representatives from eight countries and the attendees included Dr Robert Camp, the Honorary President of the GBN. The purpose of presenting the first draft of the questionnaire was twofold – first, to get feedback on its design and second, to solicit assistance in promoting the questionnaire in the home countries of the GBN members. With respect to the first purpose, a review team consisting of two researchers and three GBN members was given the task of reviewing the questionnaire during one of the workshop sessions of the GBN meeting. The review team provided improvement suggestions and proposed new questions. Subsequently, the suggested changes were made to the questionnaire and the modified questionnaire was then sent to the GBN members as well as other academics for further comment. This resulted in another three months of iterative development and fine-tuning of the questionnaire before a final version was ready for distribution.

#### *Focus and style of questions*

The questionnaire asked questions related to the awareness, use and effectiveness of 20 improvement techniques including best practice benchmarking, performance benchmarking and informal benchmarking. Definitions were provided for all the techniques to ensure that the respondents had the same understanding of each technique.

The questionnaire also sought information on the involvement of employees in benchmarking projects, processes/functions that are subject to benchmarks and benchmarking projects, as well as identified benefits from benchmarking. Other questions focused on the deployment of best practice benchmarking projects.

The style of the questions varied significantly. For the questions that related to the 20 improvement techniques, each respondent was allowed to choose multiple answers where applicable. The option to choose multiple answers was also available to some of the other questions (for example, questions relating to benefits from benchmarking and functions/processes that were subject to benchmarking). Other questions comprised a combination of attribute-based (yes/no or yes/perhaps/no) and qualitative descriptive rankings. The descriptors used varied depending on the particular question.

#### *Deployment of the questionnaire*

The completed questionnaire was deployed in two ways. First, the questionnaire was converted to a web survey and placed on BPIR.com, a membership-based on-line resource with a global audience. Emails were then sent to BPIR members and contacts at monthly intervals encouraging them to complete the questionnaire. Second, the questionnaire was sent to all GBN members and they were encouraged to send it to as many of their contacts as possible or alternatively, to direct them to BPIR.com.

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To encourage completion and respondent friendliness, the questionnaire was translated from English to five other languages – Hungarian, Arabic, German, Chinese and Russian – with the assistance of the GBN members. The overall focus of deployment was to get as many respondents as possible in as many countries as possible to complete the questionnaire. As a result of the deployment being carried out by multiple organisations in different countries (BPIR.com and GBN members), it is not possible to say with certainty how many organisations were ultimately approached or encouraged to complete the questionnaire.

#### *Validity and reliability*

The research data are considered to be valid and reliable principally due to the rigorous process used to develop the questions. The following were the actions that enabled this:

- The questionnaire was presented at the GBN conference to representatives from eight countries and with extensive benchmarking knowledge. A dedicated team spent time evaluating the questionnaire to provide input on its design.
- Clear definitions were given in the questionnaire of the types of benchmarking and improvement tools to ensure respondents clearly understood the questions.
- The questionnaire was iteratively developed by obtaining feedback from academics with benchmarking experience and from GBN members in 21 countries. Eleven iterations over a three month period enabled assurance of consistency of understanding and the questionnaire validity.
- The GBN members that provided input into the development of the questionnaire were responsible for its translation to other languages in order to ensure consistency.

#### *Analysis*

Analysis was carried using SPSS software package. Descriptive statistics which involved the use of frequency tables, charts and cross-tabulations were the primary methods of analysis used. Triangulation using responses from more than one question to arrive at an informed opinion was also used during analysis.

#### **Findings from the survey**

A total of 453 completed questionnaires from 44 countries were received. Table I shows the breakdown of completed questionnaires by country. Although some countries provided more responses than others, all of the questionnaires were analysed since the study intended to find out as much as possible about how benchmarking is being used in as many organisations in as many countries as available. Of these, 39 (8.9 per cent) were completed by micro-sized organisations (one to nine employees), 75 (17.2 per cent) were completed by small-sized organisations (ten to 49 employees), 50 (11.5 per cent) were completed by medium-sized organisations (50-250 employees), 272 (62.4 per cent) were completed by large organisations (>250 employees) while the remaining 17 (3.8 per cent) were missing data on company size. In addition 124 (27 per cent) organisations were public sector based, 283 (63 per cent) were private sector organisations while 44 (10 per cent) were not-for-profit or community based organisations. Figure 1 shows the distribution of organisations by industrial classification. The responses also

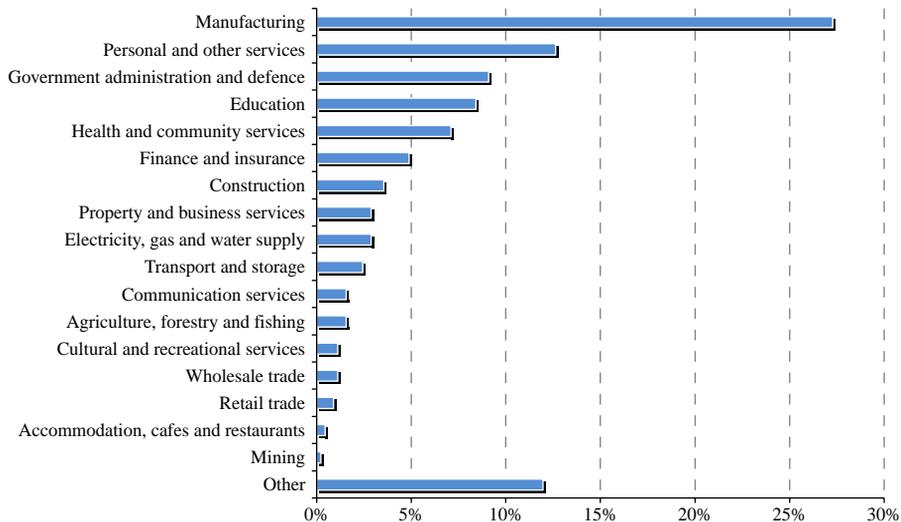
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All countries	Frequency	Valid per cent
New Zealand	53	11.7
The UK	53	11.7
India	44	9.7
Germany	43	9.5
Canada	33	7.3
Taiwan	32	7.1
Australia	28	6.2
Hungary	22	4.9
Mauritius	20	4.4
Saudi Arabia	19	4.2
Singapore	15	3.3
The USA	11	2.4
China	10	2.2
Bahrain	9	2.0
UAE	7	1.5
Iran	5	1.1
Ireland	5	1.1
Mexico	5	1.1
Greece	3	0.7
Switzerland	3	0.7
Syria	3	0.7
Turkey	3	0.7
Austria	2	0.4
Botswana	2	0.4
Jordan	2	0.4
Pakistan	2	0.4
Russia	2	0.4
Belgium	1	0.2
Cyprus	1	0.2
Czech Republic	1	0.2
Egypt	1	0.2
Ethiopia	1	0.2
Iraq	1	0.2
Israel	1	0.2
Italy	1	0.2
Malaysia	1	0.2
Namibia	1	0.2
The Netherlands	1	0.2
Philippines	1	0.2
Portugal	1	0.2
Qatar	1	0.2
Romania	1	0.2
Slovakia	1	0.2
South Africa	1	0.2
Total	453	100

**Table I.**  
Breakdown of  
responses by country

indicated that 51 (11 per cent) of the organisations had been in operation for five years or less, 64 (14 per cent) had operated for six to ten years, 65 (14 per cent) had operated for 11 to 15 years, 29 (6 per cent) had operated for 16 to 20 years while 243 (54 per cent) had operated for more than 20 years.



Note: n = 451

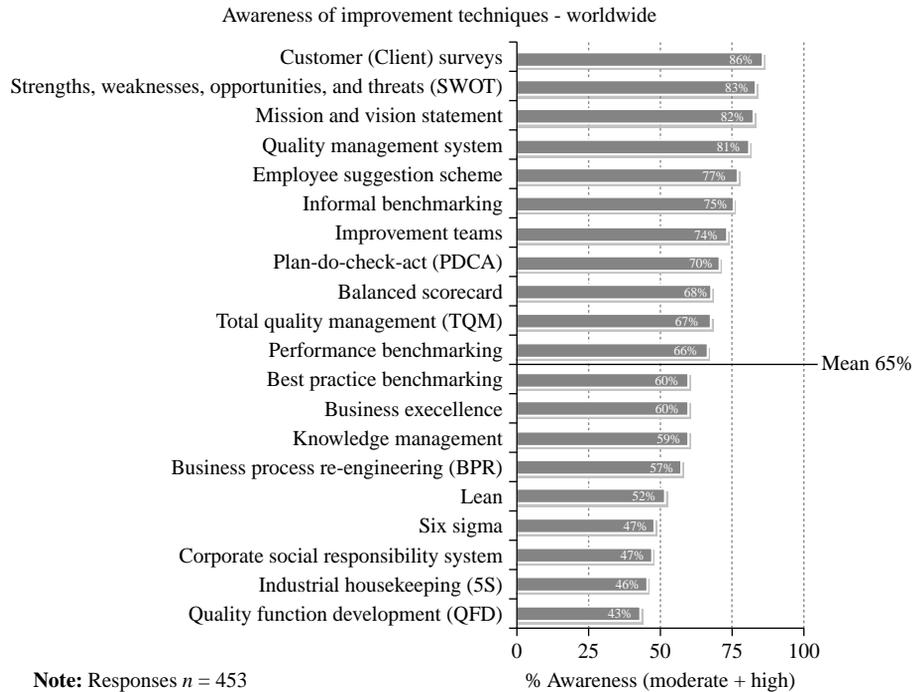
**Figure 1.**  
Breakdown of respondents by industrial classification

*Awareness and use of benchmarking in comparison to other improvement tools*

Figure 2 shows the level of moderate-to-high awareness of different improvement tools from 453 respondents. It shows very high awareness of informal benchmarking (75 per cent) and relatively high awareness of performance benchmarking (66 per cent) and best practice benchmarking (60 per cent). This places awareness of benchmarking below awareness of tools such as customer surveys (86 per cent), strengths, weaknesses, opportunities and threats (SWOT) analysis (83 per cent) and quality management systems (81 per cent) but above awareness of BPR (57 per cent), lean management (52 per cent), Six Sigma (47 per cent) and 5S (46 per cent). Figure 3 shows the level of use of the techniques. It shows that informal benchmarking was used by 69 per cent of respondents, performance benchmarking was used by 49 per cent and best practice benchmarking was used by 40 per cent. This compares with response rates of 22 per cent for Six Sigma, 30 per cent for 5S, 36 per cent for lean management, 46 per cent for BPR, 77 per cent for customer surveys and 72 per cent for SWOT analysis.

*Effectiveness and future use of benchmarking in comparison to other improvement tools*

Responses to a question asking about the effectiveness (moderate or major) of the improvement tools are shown in Figure 4. It indicates that quality management systems (80 per cent, 233 of 291 responses), improvement teams (77 per cent, 219 of 283 responses), customer surveys (77 per cent, 260 of 336 responses) and BPR (76 per cent, 152 of 200 responses) were considered to be the most effective tools. Best practice benchmarking (67 per cent, 115 of 171 responses), informal benchmarking (65 per cent, 201 of 308 responses) and performance benchmarking (65 per cent, 140 of 216 responses) had relatively lower perceptions of effectiveness from the respondents. With regards to future use of the improvement tools within the next three years, performance benchmarking (68 per cent, 110 of 161 responses), informal benchmarking (63 per cent, 57 of 90 responses), SWOT analysis (62 per cent, 47 of 76 responses) and best practice benchmarking (61 per cent, 124 of 203 responses) had the highest rates of



**Figure 2.**  
Awareness of  
improvement techniques

intended future use. The lowest rates of intended future use were for lean management (38 per cent, 72 of 190 responses), total quality management (TQM) (37 per cent, 65 of 178 responses), 5S (29 per cent, 60 of 208 responses), Six Sigma (28 per cent, 70 of 250 responses) and QFD (25 per cent, 58 of 231 responses) These results are shown in Figure 5.

*Reasons for failure to use benchmarking*

The organisations that do not use benchmarking were asked to identify and rank up-to-three most important reasons for not using the technique (Figure 6). The data collected from 214 organisations was then normalized by attaching weights (the most important reasons were attached a weight of 3 and the least a weight of 1), multiplying with the numbers of responses and averaged. The results indicated that the most important reason was “lack of resources” (0.95, 97 responses) followed in order by “lack of benchmarking partners” (0.91, 95 responses), “lack of technical knowledge in planning benchmarking projects” (0.75, 87 responses), “lack of understanding of benchmarking” (0.75, 65 responses), “lack of top management commitment” (0.74, 76 responses), “fear of sharing information” (0.56, 54 responses), “no clear benefit from benchmarking” (0.35, 34 responses), “cost of benchmarking greater than benefit” (0.33, 37 responses), “long time frame to complete projects (0.31, 40 responses) and “lack of authority” (0.18, 24 responses). Organisations that failed to use formal approaches to benchmarking (i.e. those that responded to this question) were then requested to not to progress with the

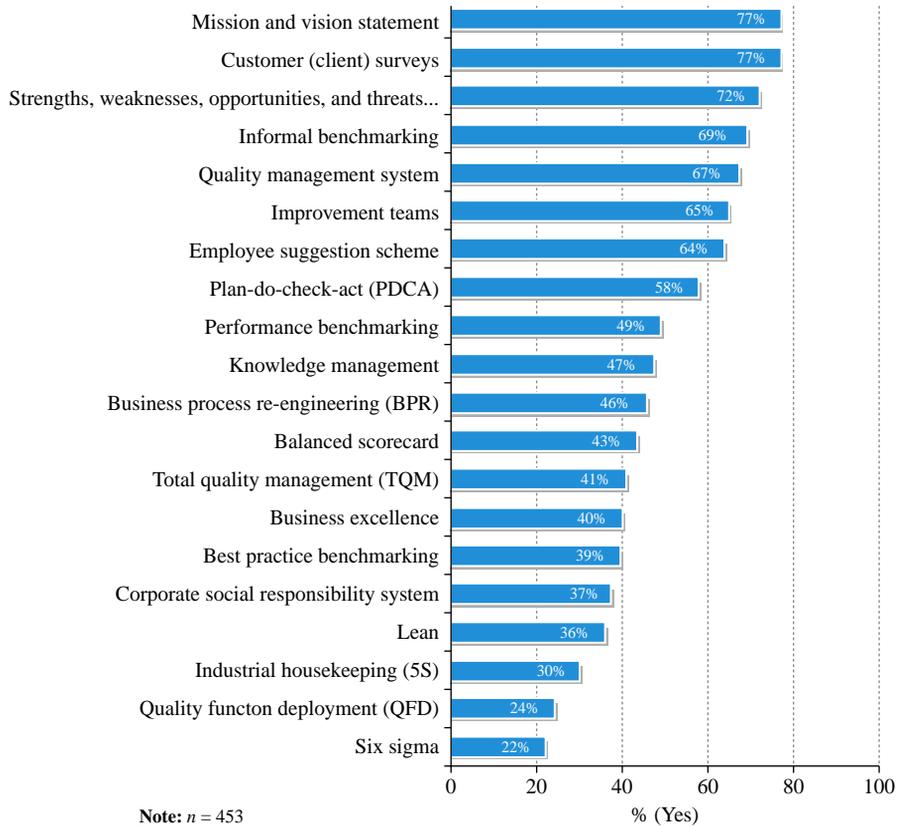


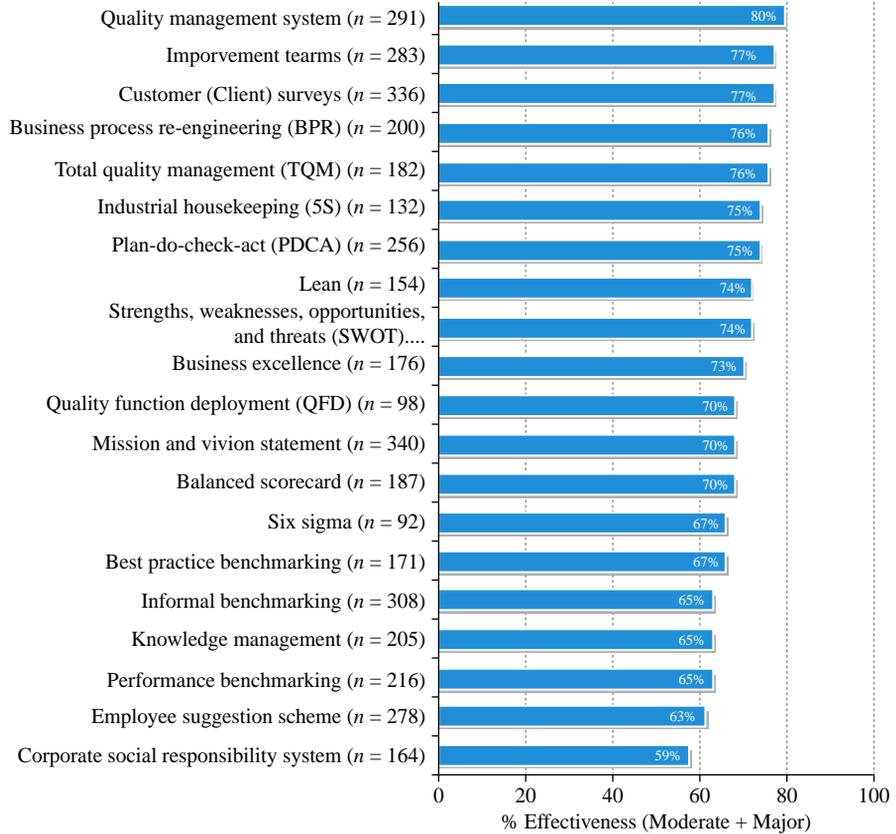
Figure 3. Current use of benchmarking

questionnaire further. Therefore, the data presented subsequently only relates to organisations that use performance or best practice benchmarking.

*Benchmarks versus benchmarking*

The organisations that used benchmarking were asked to identify the areas of their operations where they collect benchmarks (i.e. performance measures). The data, which is presented in Table II indicates that more than half of the respondents regularly collect benchmarks for all important measures in areas related to financial (54 per cent), customer (53 per cent), product/service (51 per cent). The corresponding figures for process related and employee related areas were 46 per cent and 38 per cent, respectively.

However, the collection of benchmarks in certain areas of operation does not necessarily imply that benchmarking projects were carried out in these or other areas. Therefore, the respondents were asked which areas of their operations had carried out best practice benchmarking projects within the past three years. The results are shown in Figure 7 indicated that customer service was the most popular area and public relations was the least popular area for benchmarking projects.



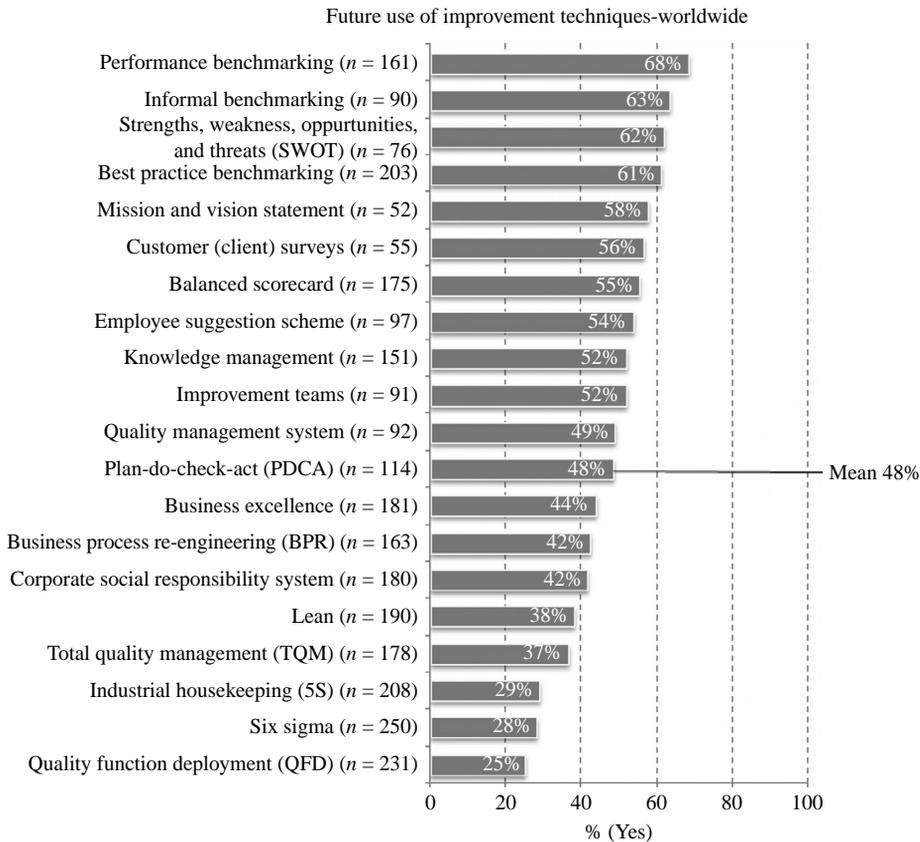
**Figure 4.**  
Responses indicating moderate or major effectiveness of improvement tools

*Reasons for undertaking best practice benchmarking*

Respondents that use best practice benchmarking were asked for the reasons why they use the technique. They were required to identify and rank up-to-three most important reasons for using best practice benchmarking. The data collected from 126 organisations was then normalized by attaching weights (the most important reasons were attached a weight of 3 and the least a weight of 1), multiplying with the numbers of responses and averaged. The results are shown in Figure 8 and indicated that improvement of process performance (1.98,  $n = 104$ ) was significantly more important than any other reason. The ordered ranks for other reasons are “to address major strategic issues” (1.04,  $n = 57$ ), “to learn what other organisations are doing” (0.94,  $n = 68$ ), “to improve financial performance” (0.77,  $n = 48$ ), “to develop new products/services” (0.44,  $n = 30$ ), “necessary for business excellence assessment” (0.32,  $n = 24$ ) and “to encourage a cultural shift to a learning culture” (0.29,  $n = 28$ ).

*Best practice benchmarking deployment and administration*

With respect to the model used for best practice benchmarking, 41 (28 per cent) of 145 respondents claimed not to use a particular model while 74 (51 per cent) developed their own model. The remaining 30 (21 per cent) used an existing model such as the Xerox



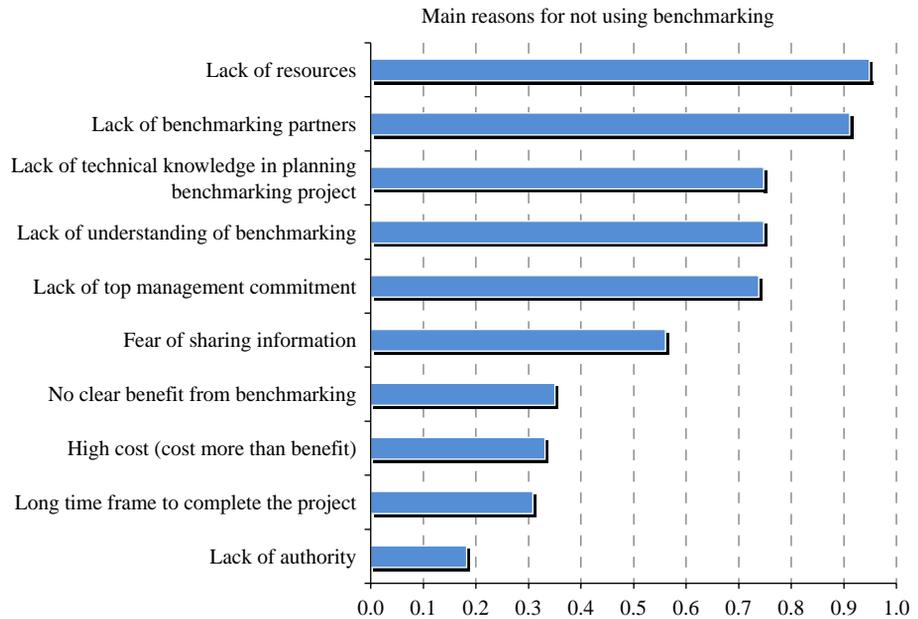
**Figure 5.** Responses indicating future use of improvement activities

12-step model. When asked how many benchmarking projects were typically carried out each year, 22 (15 per cent) of 142 respondents claimed to carry out one project while the majority of 77 (54 per cent) carried out between two and five projects each year. A total of 16 (11 per cent) organisations carried out between six and nine projects, 19 (13 per cent) carried out between ten and 20 projects while the remaining 8 (6 per cent) carried out more 20 projects each year.

Figure 9 shows the answers with respect to the length of a typical benchmarking project excluding the implementation of an identified best practice. It indicates that almost two-thirds (66 per cent) of 139 respondents took less than four months to complete a typical project. Table III indicates the responses relating to activities carried out during the planning of a benchmarking project. It indicates that more than half of 139 respondents usually or always develop a project brief (66 per cent, 92 responses), calculate the expected costs and benefits of the project (55 per cent, 76 responses) and ensure that a benchmarking code of conduct is understood and followed (42 per cent, 58 responses).

*Involvement in best practice benchmarking*

With respect to the size of benchmarking teams 87 (62 per cent) of 141 respondents indicated that benchmarking teams consisted of four or less people (Figure 10).



**Figure 6.**  
Reasons for not using benchmarking

Note: *n* = 214

Collection of benchmarks	Employee-related ( <i>n</i> = 213)	Financially-related ( <i>n</i> = 213)	Process-related ( <i>n</i> = 213)	Product/service-related ( <i>n</i> = 213)	Customer-related ( <i>n</i> = 213)
No benchmarks collected (%)	16	14	14	8	10
Benchmarks occasionally collected (%)	24	16	20	20	15
Regularly collected for one or two measures (%)	22	16	21	21	22
Regularly collected for all important measures (%)	19	23	25	26	25
Regularly collected for all important measures and the data are regularly reviewed and acted upon (%)	19	31	20	25	28

**Table II.**  
Collection of benchmarks by respondents

When asked about the usual composition of benchmarking project teams, 101 of 495 (20 per cent) selections from 142 respondents indicated the teams usually had middle managers. There were also high frequencies for team membership based on selection (96 selections, 19 per cent), senior management (81 selections, 16 per cent) and process owners (80 selections, 16 per cent). The least participating groups in benchmarking teams are external suppliers (15 selections, 3 per cent) and external benchmarking experts (14 selections, 3 per cent). This data are shown in Figure 11.

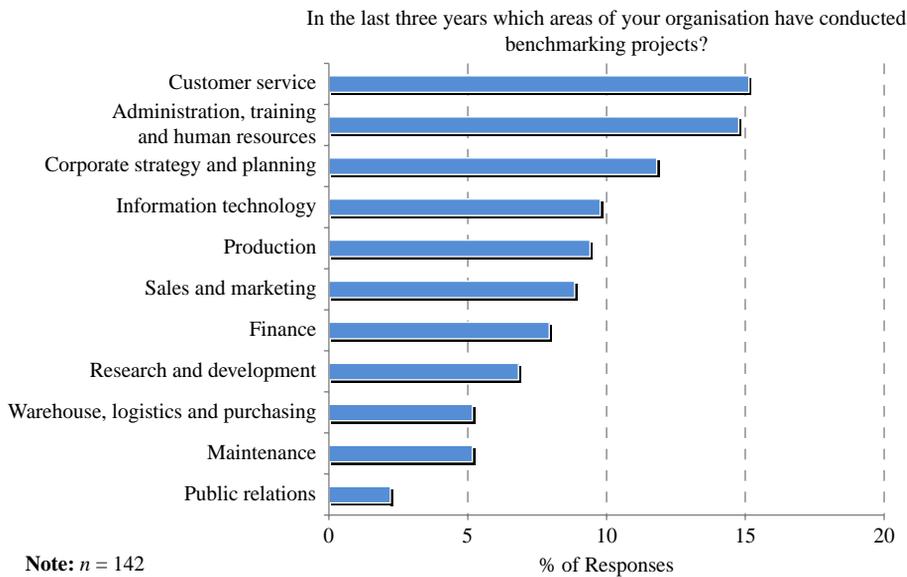


Figure 7. Areas of operation subject to benchmarking

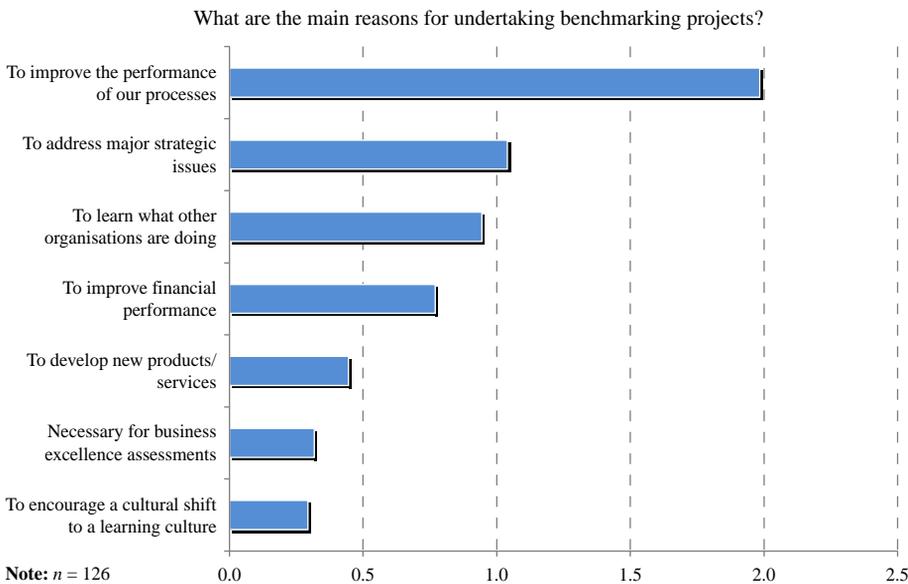
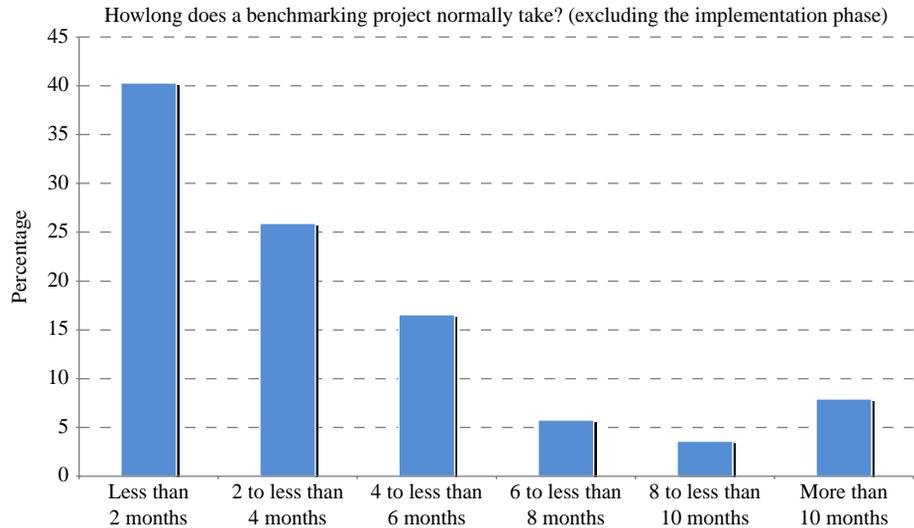


Figure 8. Reasons for undertaking best practice benchmarking

### Identifying patterns in the dataset

In order to identify patterns within the data set, several responses were cross-referenced and key findings are presented in this section. In considering the impact of the type of benchmarking methodology adopted on its effectiveness, the study indicated that 54 (50 per cent) of 108 large organisations developed their own model. Twenty-nine per cent



**Figure 9.**  
Length of a typical benchmarking project

**Note:**  $n = 139$

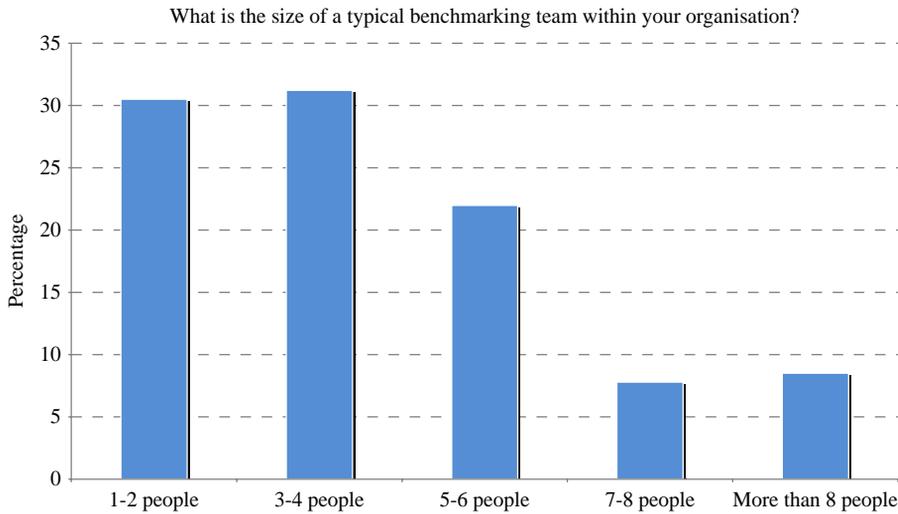
Activities for planning projects	No (%)	Rarely (%)	Sometimes (%)	Usually (%)	Always (%)
Develop project brief stating aim, scope, sponsor and members of benchmarking team	6	8	19	35	32
Calculate the expected costs and benefits of the project	14	15	16	32	22
Ensure benchmarking code of conduct is understood and followed	15	12	15	28	30

**Table III.**  
Activities used in the planning of best practice benchmarking projects

**Note:**  $n = 139$

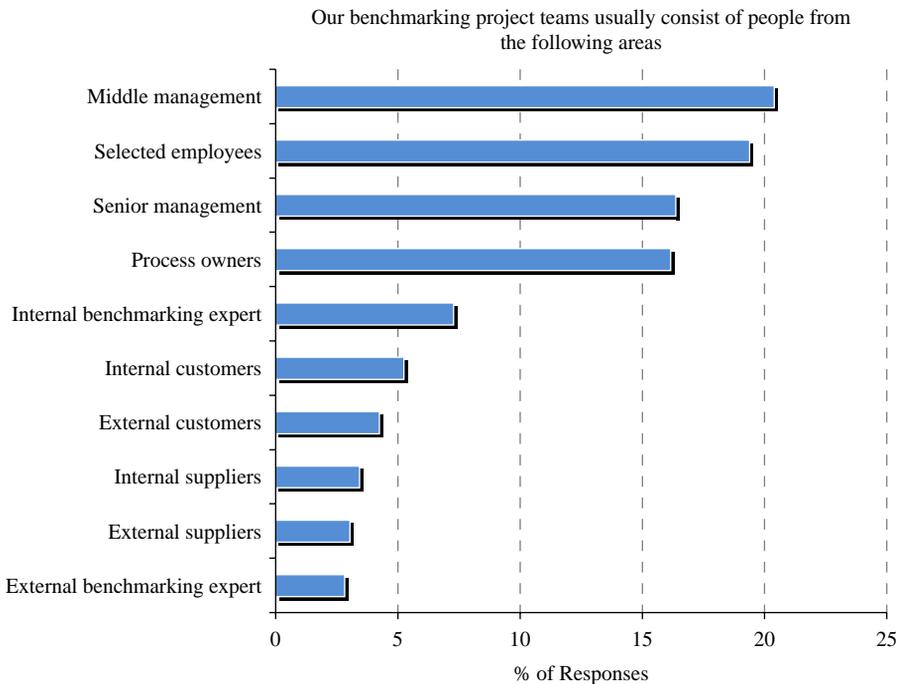
did not use any particular model while 21 per cent used consultants' models. For medium-sized organisations, four (31 per cent) of 13 organisations developed their own model while 46 per cent used no particular model and the rest used consultants' models. For small companies that experienced major or moderate benefits, 7 (64 per cent) of 11 organisations developed their own model while 24 per cent each used no particular model or consultants' models. For micro organisations 8 (73 per cent) of 11 organisations developed their own model while 9 per cent used no particular model and 18 per cent used consultants' models.

The data also showed that 68 (65 per cent) of 105 organisations that had operated for more than 20 years intended to use best practice benchmarking in the future. The figure for organisations operating for 16-20 years was 47 per cent ( $n = 15$ ) and for 11-15 years was 55 per cent ( $n = 29$ ). For those that had operated for six to ten years, the figure was 57 per cent ( $n = 30$ ) while for organisations with less than five years of operation, the figure was 64 per cent ( $n = 22$ ). When the future use of benchmarking was examined within the context of organisation size 77 (69 per cent) of 112 large



Note: n = 141

Figure 10. Size of typical benchmarking team



Note: 142 respondents with 495 responses/frequencies

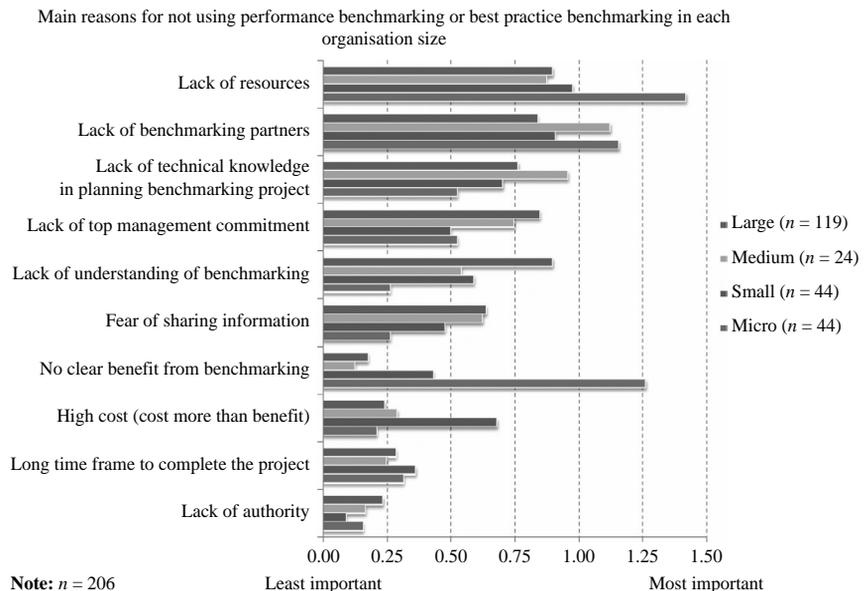
Figure 11. Composition of benchmarking teams

organisations intended to use best practice benchmarking in the future while the corresponding figure for medium-sized organisations was 46 per cent ( $n = 24$ ). For small organisations, the figure was 47 per cent ( $n = 34$ ) and for micro organisations, it was 57 per cent ( $n = 21$ ).

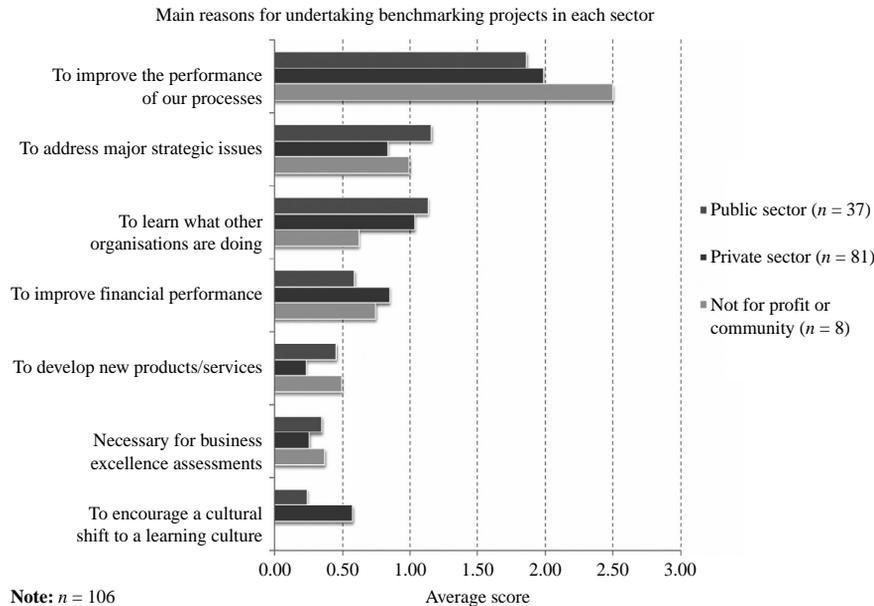
Figure 12 shows the reasons for non-adoption of performance or best practice benchmarking within the context of organisation size. It indicates that large companies are most likely to see lack of resources, lack of technical knowledge in planning benchmarking project, benchmarking partners, lack of understanding of benchmarking, management commitment and fear of sharing information as barriers to its implementation. Finally, we consider the reasons why different types of organisations undertake benchmarking. Figure 13 shows that private and public sector organisations consider the improvement of process performance, the addressing of major strategic issues and to learn what other organisations are doing as the main reasons for undertaking benchmarking.

### Discussion

The majority of respondents were aware of the three types of benchmarking. Usage levels of the three types of benchmarking trailed awareness levels by 6 per cent for informal benchmarking, 17 per cent for performance benchmarking and 21 per cent for best practice benchmarking. The higher take-up of informal benchmarking, followed by performance benchmarking and then best practice benchmarking may be indicative of the difference in effort, cost and time required for the different types of benchmarking. With advances in technology – such as being able to search for best practices via the internet – the use of informal benchmarking is likely to have increased greatly in recent years. It is interesting to note that for all types of benchmarking, adoption levels are greater than for other topical techniques such as six-sigma and lean management.



**Figure 12.** Reasons for non-adoption of benchmarking vs organisation size



**Figure 13.** Reasons for adoption of benchmarking by different types of organisation

Although best practice benchmarking had lower adoption rates than the other two types of benchmarking, it was perceived to be the most effective of the three. This suggests that the time, effort and deployment models that underpin best practice benchmarking are considered as facilitators of real operational benefits to organisations. However, benchmarking in general, had lower perceptions of effectiveness when compared to techniques such as quality management systems, improvement teams, customer surveys and BPR. The reasons for this may be one or more of the following:

- A total of per cent of respondents that used benchmarking had not been trained in benchmarking and another 29 per cent of respondents indicated that “only a few of the employees had received training or that training was rarely given”.
- A total of per cent of respondents do not follow (or rarely follow) a benchmarking code of conduct when undertaking a benchmarking project.
- A total of per cent of respondents that used benchmarking do not follow a particular benchmarking methodology when conducting benchmarking projects.
- A total of per cent of respondents “do not, rarely, or sometimes” develop a project brief for their benchmarking project specifying the aim, scope, sponsor and members of the benchmarking team – thus indicating poor project planning with an increased likelihood of poor outcomes from the project.
- Only 35 per cent of respondents indicated that over 60 per cent of their projects resulted in implementing best practices within their organisation. Therefore, many organisations are either not identifying best practices through benchmarking or they are not implementing the best practices they find.

- A total of per cent of respondents do not (or rarely) undertake a cost and benefits analysis of the benchmarking project thereby making it difficult to accurately quantify the benefits gained.

The survey also indicated that the majority of respondents intended to continue using benchmarking over the next three years thereby indicating high levels of confidence in its continued relevance and ability to deliver organisational improvements. Significantly, of the organisations that did not use benchmarking, the key reasons for failure to adopt the technique were organisational and cultural in nature (i.e. lack of resources, benchmarking partners, technical knowledge, understanding of benchmarking and top management commitment) rather than lack of conviction about the benefits of benchmarking. The identification of lack of resources as the most important reason for not using benchmarking concurs with the findings by Ungan (2004) who asserted that benchmarking and adoption of best practices are resource demanding. Although Bhutta and Huq (1999) had suggested that the cost of benchmarking studies had reduced significantly to what they described as a “small investment”, our study indicates that a lack of resources is still perceived as a key obstacle to benchmarking. The implication is that if these issues can be addressed, then these organisations are likely to use benchmarking to facilitate organisational improvement.

With respect to the future use of benchmarking, almost two-thirds of organisations that had operated for more than 20 years intended to use best practice benchmarking in the future. High per centages were also indicated for those operating for 11-15 years, six to ten years and less than five years. The clear indication is that older organisations that are likely to have used benchmarking for a long time intend to continue using it while younger organisations that have adopted it more recently have identified some benefits from its use and intend to continue using it. However, larger organisations are more likely to use it in future compared to any other size of organisation. Furthermore, among non-adopters of benchmarking, larger organisations are most likely to see lack of resources, benchmarking partners and management commitment as barriers. Finally, the survey also shows that both private and public sector organisations consider process improvement and strategic issues as key reasons for undertaking benchmarking.

#### *Comparing benchmarking to other improvement tools*

From Figures 2-4, we get an understanding of how benchmarking compares to other improvement tools. Specifically, there is more awareness of formal benchmarking when compared to more technical tools such as lean management, Six Sigma, 5S, BPR and QFD. However, less technical tools such as customer surveys, mission and vision statements, improvement teams and employee suggestion schemes are better known. However, among the organisations that have implemented these tools, the more technical tools are perceived to be more effective. The authors suggest that low awareness of the technical tools is indicative of a disparity across countries. Therefore, while tools such as Six Sigma, lean management and 5S are well known in countries such as the UK, the USA, Germany and Australia, they may be less well known in other countries. Furthermore, such tools are more prevalent in the manufacturing industry and since many of our respondents are from the non manufacturing sector, they are less likely to be aware of these tools.

Furthermore, best practice benchmarking and some other tools such as Six Sigma, QFD, business excellence, TQM and balanced scorecard were characterised by

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a significant disparity between levels of awareness and levels of deployment. This may indicate that awareness of these tools does not necessarily imply that organisations are convinced that deployment is worthwhile. Reasons for this may include the presence of significant obstacles (e.g. lack of expertise, time and cost), lack of awareness of the benefits or tools/technique “fatigue”.

With respect to best practice benchmarking in particular, our study presents a different picture to common perception and many published studies. Many studies have reported very significant use of benchmarking. For example, Bhutta and Huq (1999) made reference to a 1995 study that found that 70 per cent of Fortune 500 companies used benchmarking on a regular basis. In addition, Tyler (2005) noted that a 1993 study found that 70 per cent of Australia’s top 500 companies were using or intending to use benchmarking. Furthermore, adoption rates of 50 per cent have been quoted for France and 67 per cent for England (Davies and Kochhar, 1999; Maire *et al.*, 2005). However, this study has found an adoption rate of 39 per cent. A reason for this may be because many other published studies and research have not distinguished between the different types of benchmarking and therefore, organisations were asked if they used benchmarking without a distinction been made between informal, performance and best practice benchmarking.

Overall, this implies that although some studies (Jarrar and Zairi, 2000; Yasin, 2002) suggest that benchmarking is a popular tool worldwide, the reality is that after 25 years of “popularity”, only a minority (although significant) of organisations across several countries use best practice benchmarking – the most effective form of benchmarking.

#### *Benchmarking – then and now*

In view of the findings from the previous section, it is important to understand developments in benchmarking adoption. The survey provides a strong indication that respondents who had adopted benchmarking considered it to be important to operations management. The top five areas for recent benchmarking projects were customer service, human resources and training, corporate strategy and planning, IT and production. Perhaps, more significantly to the operations management community is the fact that the top two reasons for undertaking benchmarking project is these areas were to improve processes and address major strategic issues. This is an important finding as it shows a significant difference when compared to the studies by Cassell *et al.* (2001) who found that financial performance was the most important reason for benchmarking and Maiga and Jacobs (2004) who found that the top three reasons for benchmarking were profitability, return on assets and sales.

The survey also showed that most companies developed their own benchmarking models. The majority of large, small and micro organisations that developed their own models experienced major or moderate effectiveness. The overwhelming majority of respondents (82 per cent) that used benchmarking carried out two or more benchmarking project per year. This provides further evidence that the organisations are comfortable with benchmarking as a technique for business and operations improvement.

Although, the study found that only 39 per cent of organisations use best practice benchmarking, Table II suggests that more than half of organisations regularly collect benchmarks for all important measures for financially, product/service and customer related areas. This suggests that performance benchmarking as a basis for identifying areas for improvement and from which best practice benchmarking may follow is

entrenched in most organisations. Conversely, for organisations that do not collect benchmarks or only collect them occasionally, they may be focusing improvement activities in the wrong areas and therefore may not find benchmarking as effective as it could be.

Figure 11 shows that benchmarking teams consist of a wide variety of people including process owners, middle managers, internal customers and other selected employees. This contrasts with the study by Bhutta and Huq (1999) which suggested that employees were not being involved in the benchmarking process and the study by Davies and Kochhar (1999) which suggested that benchmarking did not involve different levels of an organisation. Overall, this study indicates a significant level of change over time in the way that benchmarking is perceived and implemented by adopters.

*Benchmarking – established operations management technique or management fad?*

From the study, we can suggest that benchmarking is an established operations management technique rather than a management fad. The data suggests that a very significant minority of the overall sample set use best practice benchmarking and that those that use it are likely to:

- use it for operations management related improvement such as process improvement and addressing strategic issues;
- continue using it in the future;
- have used it across a range of organisational areas including customer service, IT and production;
- have gained benefits from its use, although it is not as effective as some other improvement tools; and
- have developed their own models with which they are comfortable.

In addition, three other issues are significant. First, it has been adopted by organisations from different sectors and of different sizes – indicating wide appeal. Second, both older and younger organisations use benchmarking suggesting that rather than dying out after a few years of popularity, it is well entrenched in many organisations and has been successful in attracting the interest of organisations that were not in existence in its early days more than 20 years ago. Third, the organisations that currently do not use benchmarking do not, in the majority, dispute its benefits but suggest that resource and other organisational issues are barriers. If these issues can be resolved, there may even be an increase in the adoption of benchmarking.

On the basis of these observations, it can be strongly argued that benchmarking is not a management fad but an established operations management tool that has and will continue to provide benefits to a very significant but core minority of organisations worldwide. This will primarily be through the deployment of best practice benchmarking. Our findings, therefore do not concur with the suggestion by Carson *et al.* (1999) that benchmarking is a fad.

### **Conclusion**

The paper has presented findings from a comprehensive study of benchmarking adoption and implementation. It indicates that 25 years after the start of benchmarking's growth as an improvement technique, best practice benchmarking which is considered to be the most beneficial form of benchmarking is not used by a majority of organisations

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across the survey countries. This is in contrast to common belief that benchmarking is widely adopted across the world. However, the study has also provided empirical evidence to show that more organisations prefer to use informal benchmarking and performance benchmarking in comparison to best practice benchmarking.

However, the study indicates that among the organisations that adopt benchmarking, there have been significant changes over the years in how the tool is viewed and used. In particular, financial performance is no longer the key driver of benchmarking. Rather, it is the need to improve processes that is the key driver of benchmarking. In addition, there is now more involvement of employees and more deployment of benchmarking at operational levels. As an improvement technique, it is applied to a range of functions organisation-wide. These include customer service, production, finance, research and development and information technology, among others. There is also widespread use of benchmarking across organisations in all sectors and of different sizes and ages. It has been shown that benchmarking is an established operations management tool with potential to grow rather than a management fad that has faded away.

The study has also shown that awareness and effectiveness of benchmarking compares quite well with a range of other management techniques. In particular, organisations are more aware of benchmarking than the more technical tools such as 5S, Six Sigma and lean management. However, high awareness did not necessarily translate to comparable levels of deployment.

The study has also identified obstacles to wide adoption of benchmarking and from these obstacles, it is possible to identify a number of implications for practitioners. First, there is the need to understand and eliminate barriers to adoption and growth of benchmarking. In particular, factors such as lack of benchmarking partners, understanding of benchmarking and technical knowledge in planning benchmarking projects can be readily addressed through resources such as books, guides, consultants and benchmarking networks. Furthermore, challenges with management commitment can be addressed through education and awareness. In addition, a sizeable proportion of organizations that use benchmarking have not been trained in benchmarking, and therefore, there is a need for training and benchmarking skills development. It is also important to promote the fact that benchmarking can be used across all areas of an organisation, is effective and can help improve performance. Furthermore, it takes less than four months, in most cases, to complete a benchmarking study and a large team is not necessarily required.

This study is not without limitations. Questionnaire responses from some countries were few in number despite repeated reminders to potential respondents. Therefore, does 453 responses from 44 countries provide a representative snapshot of the use of benchmarking worldwide? While a higher number of responses would have been preferable, from the authors' point of view, this study represents the most complete research on benchmarking adoption across many countries to date. In addition, only one response was sought from each organisation and there was an assumption that the respondent was knowledgeable about the improvement activities of the organisation since the questionnaire was sent to the indicated person for benchmarking and/or business improvement. Furthermore, in our analysis, we have considered all the responses as a single dataset and have not analysed inter-country differences. This is because we wanted to understand the use of benchmarking in as many organisations in

as many countries as possible rather than carry out inter-country comparisons. Our study was also set up to gather descriptive statistics data rather than inferential data. This was because our primary aim was to identify current state of benchmarking rather than to test relationships relating to benchmarking.

Finally, it is important to recognise that benchmarking as a technique for improvement is here to stay. The opportunity it presents is for organisations, of all types, to improve their business by using benchmarking – particularly informal benchmarking which is readily accessible to all organisations. Following on from informal benchmarking organisations can begin to use formal methods such as performance and best practice benchmarking to achieve larger gains in performance.

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