An analysis of a structured benchmarking project: the case of Dubai Electricity and Water Authority’s benchmarking project.

Abstract

Purpose: The study investigates a benchmarking project carried out by the Dubai Electricity and Water Authority (DEWA) as part of a structured benchmarking initiative. The project was based on the TRADE benchmarking methodology and this paper examines the tools, activities and outcomes that relate to each stage of the adopted methodology.

Design/methodology/approach: This study is based on case study methodology. Data was collected from various sources including analysis of project reports written by DEWA’s benchmarking team reporting on their activities during the project. Data was also collected from four project presentations given at different stages of the project. In addition, the research team held three meetings with the DEWA Benchmarking team at different stages of the benchmarking project.

Findings: The results show the key challenges and successes faced during each stage of the benchmarking project. It indicates the actions taken to overcome the challenges and the role played by internal and external stakeholders in facilitating the success of the benchmarking project.

Practical implications: The study presents information that would guide organisations that wish to carry out a benchmarking project – and particularly those implementing benchmarking for the first time. The study provides a summary of the key lessons learnt by DEWA’s benchmarking team as a guide for other organisations.

Originality/value: Academic research has not adequately examined and analysed the stage-by-stage elements of a benchmarking project from the perspective of the implementing organisation. This study addresses this gap by detailing and analysing the experiences of a benchmarking project by tracking the stage-by-stage activities of the benchmarking team.

Keywords: Benchmarking, Dubai, TRADE Benchmarking Methodology, DEWA, DGEP

Introduction

Benchmarking has been recognised as one of the most widely known and adopted improvement techniques worldwide. A study by Adebanjo et al. (2010) and more recently Rigby and Bilodeau (2015), found that more than a quarter century after the publication of the first book on benchmarking by Dr Robert Camp (1989), it continues to be one of the most popular improvement tools in the world.

Best practice benchmarking involves organisations learning from other organisations and adapting such knowledge to improve their own performance (Whiting, 1991). The potential to improve organisational performance is arguably, a key reason for the popularity of benchmarking.

While the literature discussing the applicability, processes and benefits is mature (Yasin, 2002; Dattakumar and Jagadeesh, 2003; de Castro and Frazzon, 2017), there has been, surprisingly, very limited academic literature describing and analysing the experience of undertaking a benchmarking project from the perspective of an organisation that has chosen to adopt the technique. This study seeks to address this gap by analysing the benchmarking journey of the Dubai Electricity and Water Authority (DEWA) as it undertook a benchmarking project using the TRADE benchmarking...
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Benchmarking methodology. The study examines the activities, tools and outcomes of the benchmarking team at every stage of the deployment of the TRADE benchmarking methodology. According to Adewunmi et al. (2016), implementation plays a very important role in achieving benchmarking success and consequently, studies that investigate the process of implementation of benchmarking have the potential to contribute significantly to research and industry alike.

The importance of this study derives from its ability to investigate and present, in detail, what happens in the ‘closed box’ between when an organisation begins a benchmarking project and the point where the benchmarking project is deemed a success. The need for such studies was stressed by Masden et al. (2017). Consequently, the study findings can provide insight into the challenges and successes encountered along the journey, the usefulness, or otherwise, of the tools and activities deployed and the perceptions of the participants undertaking the project. From both research and industry points of view, such findings can inform better understanding of the factors and minutiae that underpin minimise the chances of a failed benchmarking project.

The study is based on the case study of DEWA and its benchmarking project entitled, “Shams Dubai Initiative – increasing customer awareness and engagement”. The project was approved in September 2015 but began in January 2016 and its progress and results were monitored up to January 2017. The project had an overall aim, “to increase customer awareness and engagement with Shams Dubai initiative, improve marketing efforts, build effective conversations, create brand advocates and increase Dubai based customer uptake of solar projects”. The benchmarking project was part of a wider benchmarking initiative called ‘Dubai We Learn’ (DWL) which was administered and facilitated by the Dubai Government Excellence Program (DGEP) and the Centre for Organisational Excellence Research (COER), New Zealand.

The overall aim of the study was to investigate and report on the journey and experience of a public sector organisation (DEWA) undertaking a formal benchmarking project. The study will also investigate the role and impact of the wider DWL initiative in the benchmarking project carried out by DEWA. The following objectives underpin this aim:

1. Investigation of tools and activities used by DEWA at different stages of the benchmarking project and clarification of the role they played in the outcomes of the project.
2. An analysis of the role and impact of external support provided by the DWL initiative in enabling DEWA to achieve its project outcomes.
3. An understanding of the challenges faced during the benchmarking project and any actions that were taken to address these challenges.

The rest of the paper is presented as follows. A literature review and an introduction to DEWA and the benchmarking project are presented next. Thereafter, the research methodology and findings are presented. A discussion of the findings and contributions as well as the study conclusions are thereafter presented.

Literature Review

There has been much academic debate and literature on the nature of benchmarking. While it was described by Moffett et al. (2008) as a structured process that enables organisational improvement by adopting superior practice from other organisations, Adewunmi et al, (2016) noted that benchmarking involves information collection, organisational assessment and self-improvement to achieve specified goals. The academic literature is also lively with much debate
about types of benchmarking with different articles contrasting between internal, competitive and
generic benchmarking (Camp, 1989; Adewunmi et al.; 2016). There has also been distinction place
between process (or best practice benchmarking) and performance benchmarking. According to
Adebanjo and Mann (2008) performance benchmarking involves a comparison of metrics while
best practice benchmarking involves “studying the practices of those organisations that are higher
performers and adapting their ‘better practices’ to another organisation”. A full discussion of the
history, nature and types of benchmarking is out of the scope of this paper and especially as these
have been severally discussed in other publications (e.g. Meybodi, 2015; Madsen et al. 2017).

However, it is clear from the literature that benchmarking has been very widely deployed (Madsen
et al. 2017). Taschner and Taschner (2016) noted the ability of benchmarking to improve process
performance while Panwar et al. (2013) identified benefits that range in focus from inventory
management to customer satisfaction to new product development. The versatility of
benchmarking to be applied to different aspects of organisational activity (Adebanjo et al, 2010) is
one of the characteristics that has made it such a powerful and popular improvement tool. It is
therefore unsurprising that benchmarking has been adopted in a wide range of industries
including manufacturing, financial services, construction, healthcare and education (van Veen-
Berkx et al. 2016; Hong et al., 2012; Luu et al., 2008).

Shortcomings of the academic literature on benchmarking

Benchmarking is clearly a popular academic topic that has enabled a vast number of research-
based articles in several journals (e.g. Benchmarking: An International Journal; Total Quality
Management; International Journal of Quality and Reliability Management). However, and
surprisingly, there is a dearth of detailed case-study based articles that describe and examine the
actual experience of undertaking a benchmarking project from the perspective of an implementing
organisation. A comprehensive review of the academic literature over the past five years failed to
identify any article that has done this.

Recently published articles in the field of benchmarking seem to fall into four main categories. The
first category are articles that are based on some form of mathematical modelling or analysis such
as DEA or Fuzzy Logic/AHP. For example, studies by Ruiz and Sirvent (2018), Ramon et al. (2018)
and Molinos-Senante and Guzman (2018) use DEA to set targets to quantify savings while Kassem
et al. (2017) use AHP to benchmark excellence criteria. This group of articles are more focused on
setting or comparison of metrics and targets and are arguably more aligned with performance
benchmarking. The second category of studies are based on survey data and examples include
studies by Ridgeway and Macdonald (2014), Adewunmi et al. (2016) and Entradas and Bauer
(2017). While these studies provide robust aggregated data, they are focused on performance in
particular sectors (e.g. Legal sector) rather than on the actual process of benchmarking. The third
category of publications are case-study based and include studies by Agrawal et al. (2017) and
Augusto and Miguel (2013). However, these case studies do not present or analyse the
benchmarking process or experience of the case study companies. The last category of papers
propose a benchmarking process or model but do not provide details of how organisations have
experienced its deployment. Examples include Goncharuk and Getman (2014), Reino et al. (2014)

Therefore, while there is a multitude of benchmarking studies, there is a relative absence of
studies that investigate, report and analyse the granular steps involved in a benchmarking project.
It raises an important question about what actually happens within the process and how are the
much touted success factors such as training, benchmarking model, partner selection,
Benchmarking visit, team selection and performance evaluation actually integrated and used to deliver a successful benchmarking project. This study provides a revelatory perspective on these issues based on the case of DEWA.

**Benchmarking and its adoption in the Public Sector.**

While it is widely acknowledged that benchmarking evolved from the private sector, with Xerox often credited as a pioneer in its effective adoption (Hong et al. 2012; Chen, 2002), its use has spread and it has been used extensively in the public sector (Madsen et al., 2017; Rendon, 2015; Mugion & Musella, 2013; May & Madritsch, 2009). Private sector organisations are likely to use benchmarking to enable improvements in aspects such as production efficiency, competitive advantage and product development (Camp, 1989; Hong et al., 2014). Public sector organisations, on the other hand, are characterised by other drivers of which best value or maximising value for the benefit of the public is prominent (Raymond, 2008). This search for best value has been a key reason why public sector organisations have sought out and adopted improvement methodologies such as benchmarking (McAdam et al., 2002). Adoption of benchmarking in the public sector has also been underpinned by the increasing availability of international benchmarking comparison data including: Government Effectiveness comparing government governance and effectiveness across 209 countries (World Bank, 2016), Transparency and Accountability comparing 176 countries in corruption perception (Transparency International, 2016) and Global Energy Architecture Performance comparing 127 countries (World Economic Forum, 2017). **Therefore, public sector organisations have advanced to the forefront of adopting benchmarking as an improvement approach.**

**Benchmarking Models and TRADE**

Benchmarking has been described as a ‘structured process’ that enables organisational improvement (Brah et al., 2000). The emphasis on embracing a structured approach during benchmarking is a fundamental tenet of best practice benchmarking. Over the years, a multitude of benchmarking models for enabling the benchmarking process have been developed. In a comprehensive review of such models Anand and Kodali (2008) found that more than 60 benchmarking models were in existence. The models all differed in their origins and in the number of steps they encompassed. Anand and Kodali (2008) classified the benchmarking models into three based on their origin – research-based models developed by academics; expert-based models developed by consultants, and; bespoke organisation-based models developed by individual organisations. Table 1 presents an overview of some of the models found in the literature.

For the purposes of the DWL initiative in general and DEWA’s project in particular, the TRADE benchmarking methodology developed by Mann (2017) was adopted. The TRADE methodology was adopted as a result of its detailed and prescriptive approach which guides users through the various stages and steps and is particularly user-friendly for organisations new to benchmarking. TRADE
consists of 5 main stages with each stage comprising of between 4 and 9 sequential steps. The main stages are:

1. **Terms of Reference – plan the project**: This stage involves selecting the aim of the project, forming a project team and developing the Terms of Reference (TOR). The Terms of Reference provides the foundation for a successful project. It should include a clear scope, expected benefits, resources required, expected time-line and identify the stakeholders who will be impacted by the project to ensure that their needs are considered.

2. **Review current state**: The second stage involves researching the extent of the current problem/issue and identifying and understanding the current practices. This stage ensures that the project team has a thorough understanding of its own organisation’s systems, processes and performance before learning from other organisations and helps to identify precisely the areas for which best practices will be sought.

3. **Acquire best practices**: This stage involves identifying which organisations are likely to have superior practices and finding out what they do differently. Various methods can be used for learning from other organisations such as internet research, surveys and site visits.

4. **Deploy – communicate and implement best practices**: This stage involves communicating best practice findings from the Acquire Stage to the relevant stakeholders, deciding what should be changed with the current practice/process and implementing the changes.

5. **Evaluate – evaluate the benchmarking process and outcomes**: This stage is designed to make sure the project has delivered the expected benefits that were outlined in the Terms of Reference. It involves undertaking a cost and benefits analysis and a review on how well each stage of the benchmarking project was undertaken so that this learning can be applied to future projects.

**DWL Initiative and DEWA**

The ‘Dubai – We Learn’ initiative was launched in October 2015 as part of the Dubai Government Excellence Programme (DGEP). The DGEP is a programme of the General Secretariat of the Executive Council of Dubai. The Dubai We Learn one-year benchmarking program consisted of Benchmarking training (TRADE Methodology), research and facilitation support for 13 benchmarking project teams. Each project team was based in a different government entity and the foci of the benchmarking project were chosen to reflect the priorities of the different entities.

One of the 13 benchmarking projects that was a part of the DWL initiative was the DEWA project. The aim of the project was “To build a robust foundation for effectively promoting and marketing Shams Dubai”. Shams Dubai is an initiative that was launched in 2014 following the promulgation of resolution number 46 by Dubai Executive Council to regulate electricity produced from photovoltaic panels to the power distribution system in Dubai. The initiative aims to encourage household and building owners (Residential, Commercial and Government) to install Photovoltaic (PV) panels to generate electricity and connect to DEWA’s grid. Households and owners primarily use electricity generated in their buildings first and any surplus is then exported to DEWA. The Shams Dubai initiative contributes to the Dubai Clean Energy Strategy 2050 and Demand Side Management Strategy 2030. A key issue for DEWA was how to innovatively market the initiative and consequently, generate the momentum that will enable increased solar power generation. It was important to
ensure that any efforts in this regard were based on best practices and the route chosen to enable this was the adoption of benchmarking.

Participation in the DWL initiative provided an opportune environment for DEWA to undertake a benchmarking project with external assistance. Prior to this project, DEWA had already undertaken benchmarking projects using the TRADE benchmarking methodology since twenty of their staff had been trained in TRADE in 2013. However, for none of these projects had they received any external assistance and so they were keen to learn more how can they can improve their benchmarking approach within the supportive structure of the DWL initiative.

There were three dimensions that the DEWA benchmarking team planned to focus on:

- **Increased Customer Awareness** – this would be achieved by increasing traffic to the Shams Dubai website, expanding the print marketing campaign, maintaining the radio marketing campaign and increasing the use of display marketing.
- **Increased Customer Interest** – this would be achieved by increasing the number of customer enquiries made to the Shams Dubai website and call centre and increasing the number of subscribers to the Shams Dubai newsletter.
- **Increased Customer Engagement** – this would be achieved by increasing the numbers of customers making applications to install PV panels.

With respect to specific targets, the team aimed to increase customer awareness from 55% to 85%, customer interest from 65% to 85%, enquiries from 108 to 200 and, ultimately customer engagement from 8 to 50 applications to install PV panels per annum.

**Case Study Methodology**

The methodology adopted for this study was the case study methodology. Meredith (2008) stressed that case study methodology allows for a rigorous and holistic investigation while Yin (2009) stated that case studies “illuminate a decision or set of decisions: why they were taken, how they were implemented, and with what result”. This research adopts a single case methodology is applicable for representative and revelatory cases. (Yin, 2009). The DEWA case study is not only revelatory but it also supports the study of process-related issues associated with a specific phenomenon over time (Lorenzo and Kawaleck, 2004).

**Data collection**

Data collection was carried out in a number of ways during the one-year project duration. These were:

- Analysis of bi-monthly reports – as part of the DWL initiative DEWA submitted bi-monthly reports and a TRADE project management spreadsheet, consisting of over 20 worksheets, which they used to manage their benchmarking projects. The spreadsheet recorded all the benchmarking tools they used such as fishbone diagrams, swot analysis, benchmarking
partner selection tables, site visit questions, best practice selection grid and action plans. This information enabled the research team to evaluate DEWA’s benchmarking journey.

- The DWL initiative required DEWA to attend and give presentations on their benchmarking project at three progress sharing days. The progress sharing days were attended by three members of the research team and notes were taken on the activities and challenges faced by DEWA.
- Two members of the research team met with DEWA’s benchmarking team a few days before or after each progress sharing day. These meetings enabled more in-depth understanding of the activities of the benchmarking team, challenges faced and the centralised support that they required to address the challenges. A total of three meetings were held with the DEWA benchmarking team.
- At the end of the project, DEWA’s benchmarking team submitted a comprehensive benchmarking project report that detailed the purpose of the project, project findings from each of the five stages of TRADE, actions implemented and results achieved, project benefits non-financial and financial, strengths and weaknesses of the project and finally a review of the positive points and challenges faced with the centralised co-ordination of the projects.
- At the end of the project, DEWA’s benchmarking team gave a final presentation regarding the project and this event was attended by all members of the research team.

Data Analysis

The multiple data sources indicated above enabled the research team to ‘reconstruct’ in detail, the benchmarking journey of DEWA by triangulating information collected throughout the project duration. This information was then segregated into stages that encompassed the five stages of the TRADE methodology which underpinned DEWA’s project. In addition, a ‘Preparation’ stage was included to report on the activities carried out before the actual deployment of the TRADE methodology. For each of these stages the information was further segmented to identify and differentiate the activities and tools, the challenges faced and the support required and provided by DGEP and COER – the facilitators of DGEP.

Findings – Stages of DEWA’s Benchmarking journey

‘Preparation’ Stage

Prior to the actual benchmarking study based on the TRADE methodology, DEWA’s benchmarking team undertook extensive preparation to underpin smooth deployment of the benchmarking project. The key activities undertaken during this stage were as follows:

- Team Selection – The project topic for benchmarking was approved in September 2015 but the project did not officially start until January 2016 when all members of the project team were selected. Initially only a Team Leader was assigned to the project to develop the scope and objectives of the project through meetings with appropriate stakeholders. Table 2 presents an early version of the project milestones and targets prior to the official commencement of the project. This process of wide stakeholder involvement in developing the projects Terms of Reference assisted the Team Leaders and sponsors to select the right team members for the project based on their competencies and availability. Figure 1 describes the positions and responsibilities of the benchmarking team.

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This project had three Vice Presidents having a sponsorship role of the project, thereby ensuring the benchmarking team had access to appropriate resources and were relieved of some of their other duties to spend time on the project. The Vice Presidents were from strategy, marketing and business excellence as the project required the involvement of all these departments. The Team Leader was selected for two reasons – firstly, this person had sound technical knowledge of Sham’s Dubai and secondly, this was a young executive that DEWA had identified as potential leadership talent for the future. Therefore, the project would serve as an opportunity for personal growth for this individual. There were three other team members that were intimately involved in the project, one was the benchmarking manager at DEWA who would assist in providing benchmarking expertise, one was a business excellence expert that had experience of being involved in a number of improvement projects, and the final team member worked as an advisor to the marketing team. Of importance was that the marketing advisor formed a separate marketing team that linked into the benchmarking project to ensure that there was open communication between the benchmarking team and the marketing function. In effect, the marketing personnel become actively involved in providing and approving ideas that would improve the marketing function, thereby improving ownership by the marketing function.

Training – All members of the benchmarking team were trained in benchmarking and the use of the TRADE methodology over a three-day period. In addition, the team was given a training manual and TRADE project management system consisting of over 30 worksheets to manage and undertake the project. The worksheets included tools that could be used at each stage of TRADE including a Terms of References form, fishbone diagram, SWOT analysis, partners selection tables, action planning forms, improvement ideas and best practice form and site visit questions form.

Code of Conduct – All members of the benchmarking team were required to read a Benchmarking Code of Conduct (based on the EFQM’s European Benchmarking Code of Conduct) and sign a ‘Benchmarking Project Agreement Form’ committing them to following the code of conduct.

‘T’ (Terms of Reference) Stage

This was the first stage of the TRADE methodology used by DEWA’s benchmarking team. A key activity of this stage was the formal agreement of the project expectations and targets, confirm membership of the team and officially kick off the project. The Terms of Reference was agreed with and signed off by the Project Sponsors. In addition, the following were carried out:

Stakeholder Identification – the various stakeholders that would be affected by the benchmarking project were determined. These were internal DEWA stakeholders such as Marketing Department, Customer Service Department, IT Department and DEWA Senior Management. In addition, DEWA customers were identified as external stakeholders.
• Communications Plan – a communications plan to determine how the different stakeholders
will be communicated with and how often communication will happen at each stage of the
project was determined. For example, the Project Team leader will meet with the Project
Sponsors every month and the Project Sponsors would, in turn, provide a progress update to
the Managing Director and Chief Executive Officer. In addition to the communications plan
with the stakeholders, the benchmarking team also determined a communications plan for
themselves. This was agreed to be on a weekly basis by meetings and e-mails with each
member providing input to documents and activities based on their expertise and agreed
roles. The communication plan was essential to ensuring that all the key stakeholders were
engaged in the project from start to finish so that the ideas and experiences of all these key
people were captured and ensure that once the final recommendations were proposed, they
would be accepted by all concerned.
• Risk Management – potential risks that could negatively impact the benchmarking project
were identified and mitigation strategies were agreed.

‘R’ (Review) Stage
This stage entailed a determination and self-assessment of the legacy Shams Dubai marketing
activities as well as a self-assessment of the capabilities of DEWA’s Marketing Department. This was
carried out by reviewing all previous activities and documentation relating to Shams Dubai and a
comprehensive discussion with all members of Shams Dubai Marketing Team. In addition, various
tools including a process flow chart, balance scorecard, self-assessment questionnaire, SWOT
analysis, brainstorming and a fishbone diagram were used. Figure 2 presents the fishbone diagram
developed by the benchmarking team.

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These activities enabled the benchmarking team to determine a baseline of current performance
and identify particular areas for improvement relating to marketing of the Shams Dubai initiative.
For example, the assessment showed that while there had been a marketing effort which included
the use of print media and a website, there were various shortcomings. These included a lack of
specific targets to be achieved and marketing was limited to raising awareness in hope that
customers would register. There was no targeted e-mail communication and the potential customer
base was not segmented (for example, between commercial and residential) and approached in a
more specific manner. Furthermore, the marketing effort appeared to be random in nature. The
assessment also found that the dedicated website had had only 8652 visits with number of enquiries
through the website and the call centre logged as 108. Furthermore, it was found that 53 customers
had registered for the newsletter while 29 customers had registered for the Shams Dubai initiative
by December 2015.

‘A’ (Acquire) Stage
Based on the challenges that were identified in the review stage, the team developed benchmarking
partner selection criteria to be used in selecting appropriate benchmarking partners. The criteria
were deliberately designed to encourage the team to look outside the industry as well as inside the
industry for best practices. The team, based on the training they received, recognised that learning from outside the industry could assist them in finding innovative and breakthrough practices that might not be found from solely learning from the solar power industry. The benchmarking partner selection were:

- Successful marketing strategies (particularly those with a strong social/environmental focus) that have quickly resulted in changes of public understanding and behaviour.
- Successful marketing strategies that have quickly resulted in customers switching from an old to a new product.
- Initiatives that have resulted in a high take-up of solar panels
- Examples of well-designed and effective websites, smart services, exhibitions, radio/television campaigns and social media campaigns that have supported the marketing strategies.

Based on a search process by the team and an external search by COER, a list of 12 potential benchmarking partners for benchmarking visits were identified. Each of the identified organisations was scored against the criteria and, as a result, the list of potential benchmarking partners was reduced to 6 organisations.

Subsequently, a visit agenda and a list of 11 main questions and more detailed sub-questions to be asked during the visit were developed. The 6 shortlisted organisations were then contacted by means of an official letter requesting a site/benchmarking visit. Four positive replies were received and, as a result, DEWA’s benchmarking team carried out 4 benchmarking visits. The organisations visited were Unilever (UAE), General Electric (UAE), Emirates Airlines (UAE) and LandMark Group (UAE). In addition, internal benchmarking of DEWA’s Conservation Team was undertaken. Supplementing the site visits, was an extensive ‘desktop’ research review for best practices which resulted in detailed information captured on over 30 organisations. In total through the site visits, desk top research and obtaining the views of DEWA’s stakeholders a total of 73 improvement ideas and practices were obtained. These ideas and practices were recorded in the Improvement Ideas and Best Practices Form of the TRADE project management spreadsheet ready for consideration for implementation in the Deploy stage of TRADE.

‘D’ (Deploy) Stage

The benchmarking team met with the Shams Dubai Marketing Team to decide on which ideas and practices should be approved for implementation. It was important to involve the marketing team in the evaluation, selection and approval of improvement ideas since the marketing team was expected to take the lead in deploying the actions. The key criteria used in selecting improvement ideas that would be deployed were ease of implementation and potential impact.

Based on the evaluation of the 73 improvement ideas, it was decided that 35 improvement ideas would be accepted for incorporation in the marketing action plan for 2016 while the other improvement ideas would be reviewed in future for inclusion in the 2017 marketing action plan. The marketing plan incorporating the proposed improvement was then referred to the Department Head for approval. The 35 improvement ideas were subsequently approved and implemented.

Key practices deployed included: a segmentation of the Shams Dubai customers into residential and commercial with key themes for each segment (75% commercial / 25% residential); total redevelopment of the Shams Dubai website; redesign and redevelopment of Shams Dubai newsletter; and launching of an e-mail marketing campaign for registration of interest by customers. Other practices included launching of Shams Dubai outreach program, launching of a School
program, maintenance of traditional media activities (press, radio and display), organising special Shams Dubai events. In addition, the marketing team participated in an exhibition, launched a Shams Dubai digital communication strategy and adopted innovation in design and branding.

‘E’ (Evaluate) Stage

The final stage of the TRADE methodology involved the gathering of the results achieved as consequences of the improvement ideas that were implemented. These were evaluated within the context of the overall objectives of the benchmarking project – increasing customer awareness, interest and engagement with the ultimate aim of increasing uptake of solar projects for Shams Dubai.

Results achieved were analysed in September 2016 and January 2017. The evaluation was carried out jointly by the marketing team and the benchmarking team. The initial results evaluated in September 2016 indicated that the overall results were positive and showed great improvement compared to the starting position at the inception of the benchmarking project. The final results of the implemented 35 improvement ideas were as follows:

Customer awareness – surveys showed customer awareness of Shams Dubai increased from 55% (June 2016) to 90% (Sept 2016) while customer understanding/clarity of the website increased from 73.5% (June 2016) to 91.4% (Sept 2016) evidencing the success of the new website design. In addition, non-cumulative customer website visits increased from 8,652 (Dec 2015) to 9,642 (Aug 2016), 15,281 (Sept 2016), 21,688 (October 2016) and 19,400 (Dec 2016). From a financial perspective, the average acquisition cost per new customer reduced by 92% from 18,787 AED (Dec 2015) to 1,475 AED (Dec 2016) while the average generation cost per lead reduced by 77% from 5,045 AED (Dec 2015) to 1,147 AED (Dec 2016).

Customer interest - surveys showed customer interest increased from 65% (June 2016) to 85% (Sept 2016) while cumulative customer enquiries on Shams Dubai increased from 108 (Dec 2015) to 364 (Sept 2016) and 589 (Dec 2017). In addition, cumulative customer Shams Dubai Newsletter registrations increased from 53 (Dec 2015) to 398 (Sept 2016) and 417 (Dec 2017).

Customer engagement - Applications for Shams Dubai solar project installations increased from 8 (March 2015) and 29 (Dec 2015) to 150 (Sept 2016) and 487 (Dec 2016). This represented a growth of 1479% in solar projects in a one-year period from 2015 to 2016 and demonstrated the full impact of the benchmarking project.

Project Review

On completion of the project, the benchmarking team were asked for their opinion on what went well and did not go well. The team identified team leadership and spirit, working together in a structured way, mutual support in accomplishing tasks, development of new ideas and sharing of experience as positive aspects of the project. Other positive attributes were improved and timely decision making, effective resource allocation, understanding of the TRADE methodology, and maintaining high ethical and quality standards. On the other hand, challenges faced were time pressure, lack of focus due to other work commitments and time taken in receiving approval from management.

In addition, the team was asked to provide a list of the lessons learnt from participation in the benchmarking project. A total of 14 points were identified and are presented in table 3.
Discussion

This study has reported on the experience of an organisation that has implemented best practice benchmarking using a structured methodology. While some studies such as Bhutta and Huq (1999) and Anderson and McAdam (2004) have identified a number of difficulties regarding the successful implementation of benchmarking, the experience of DEWA has shown how a benchmarking project can be successfully delivered. The study's research contribution and industry insight are presented as follows.

Research Contribution

There can be little doubt that benchmarking is a popular and well-regarded organisational improvement approach that has been well-researched and published in the academic literature. (Madsen et al. 2017; Adebanjo et al. 2010; Teuteberg et al., 2013). While some studies (such as Anand and Kodali, 2008; Francis and Holloway, 2007) have identified the importance of adopting a robust benchmarking framework or process, such studies have failed to investigate benchmarking at a granular level. From insights observed in the case study of DEWA, this paper now identifies and argues for the need for academic research to revisit the benchmarking process by focusing on the granularity of delivering a successful benchmarking process. The primary areas of interest are:

Benchmarking skills: Anand and Kodali (2008) classified benchmarking models into three depending on how they were developed - by academics (research-based), consultants (expert based) or individual organisations (bespoke organisation-based). They also identified more than 60 different models in use. However, the nature and importance of training and developing skills for benchmarking are not explored in the academic literature. The DEWA team were trained in two dimensions by expert consultants – firstly they were trained on the concept and nature of benchmarking and secondly, they were trained on the specific use of the TRADE model and its associated tools. The possession of this skillset was important to the team in successfully delivering their benchmarking project. From an academic perspective, there is no clarity about whether benchmarking teams are routinely trained, who carried out the training, what the nature and content of the training was and the impact of these factors on the eventual outcome of the benchmarking process. In essence, while several benchmarking models have been promoted, there is scant research on how these models were assimilated into organisations and the impact of such assimilation on eventual success.

Benchmarking team mechanics: the study by Adebanjo et al. (2010) found that 62 percent of respondents suggest that benchmarking be carried out be a team of four or less and for benchmarking teams to comprise of a variety of members by seniority and function. The centrality of teamwork and leadership to benchmarking is not new and had been proposed by early theorists including Camp (1989) and Codling (1992). However, what is less understood is the mechanism for managing a successful benchmarking team. For DEWA, the specification of a communications plan from the onset, the identification of and preparation for anticipated risks, individual ownership of the EFQM's Benchmarking Code of Conduct, high level sponsorship and mentoring from three vice presidents and external consultants were central to cohesion and success of the team. In effect,
the team found that preparation, personal responsibility, risk management and executive support were success factors to teamwork success. This is an important insight as the academic literature has not explored the internal management of benchmarking teams in any detail and neither has it investigated the relationship between how benchmarking teams are managed and the outcome of the benchmarking project.

**Benchmarking process documentation:** Process benchmarking is commonly associated with the collection of information and data. The large number of publications on benchmarking stress the importance of collecting data and according to Stella and Woodhouse (2007) the data collection quality must be high and appropriate data should be collected. But what data collection tools have been used by benchmarking teams? Which are the most commonly used and which have been found to be most effective? How have different tools been co-ordinated for effectiveness? What documentation was used during the different stages of benchmarking? These are pertinent research questions that the extant literature has failed to answer. The DEWA case study indicates the tools and documentation that the benchmarking team acquired during training and where and how they were used to support the project. Thus, while tools and documentation such as process flow chart, fishbone diagram, Action Planning Forms, Improvement Ideas and Best Practice forms and Partner Selection Tables were used to document and management the benchmarking process by DEWA, academic research needs greater understanding of the development and use of benchmarking tools and documentation at the granular level.

**Identification and selection of improvement ideas:** The studies by Tee (2015) and Goncharuk and Getman (2014) are two of a limited number of studies that have extensively discussed the process and experience of identifying and evaluating best practice ideas from visiting benchmarking partners. However, the experience of DEWA provides two new insights. Firstly, it is possible and desirable to complement formal benchmarking methods (i.e. partner visits) with informal benchmarking methods (e.g. desktop internet research, conference presentations) to generate potential improvement ideas. While informal benchmarking was defined by Adebanjo et al. (2010), its role or incorporation in a structured benchmarking project is yet to be fully understood. Secondly, the DEWA experience underpinned the importance of early engagement and integration of a stakeholder team. Specifically, the Shams Dubai Marketing Team was involved in the evaluation, selection and approval of improvement ideas before taking the lead in implementing the ideas. From a research perspective, there has been no research on whether improvement actions were implemented by the benchmarking team or a stakeholder team or a hybrid and whether the choice has an impact on success of implementation.

In summary, the study of the benchmarking project of DEWA makes a contribution to the research agenda on benchmarking by focusing on the granularity of the benchmarking process. It suggests that for all of the academic research focused on benchmarking, the research agenda has not sufficiently addressed how benchmarking teams manage and actualise the benchmarking process at the granular level.

**Industry Insights**

The case study presented has identified a number of factors that enabled the success of the DEWA benchmarking project. These factors are presented as follows:

**Pre-project** - before embarking on the project, DEWA undertook meticulous preparation to enable successful implementation of benchmarking. The key actions taken included the selection of a dedicated and balanced benchmarking team and the selection of an appropriate process to be
benchmarking. The benchmarking team also highlighted the importance of determining the project scope before starting the actual benchmarking process.

**Role of the Team Leader and Benchmarking Facilitator** – as indicated, the preparatory work for this project was crucial. In particular, correct decisions were made in the selection of the Team Leader and Benchmarking Facilitator. Both were highly motivated and studious in ensuring the TRADE methodology was followed and the other team members and stakeholders were actively engaged in the project at all stages. As an example of this, over the course of the project there were over 10 separate emails from the Team Leader requesting advice from COER and three individual meetings were held with the Team Leader by COER in addition to meetings with the whole benchmarking team. The Team Leader was continually wanting to learn more about benchmarking and obtain feedback on how to further improve the project. The Benchmarking Facilitator, who had previous experience of facilitating benchmarking projects, also ensured that the highest standards were followed and, in particular, ensured that the benchmarking team were using the right performance measures so that before and after performance could be demonstrated.

**Training** - DEWA understood the importance of ensuring that the benchmarking team had a full understanding of benchmarking and were trained in an appropriate benchmarking model. All team members were trained in the TRADE benchmarking methodology, and the Team Leader and Benchmarking Facilitator were studious in ensuring that all steps of the methodology were followed.

**Benchmarking Model** – according to Adebanjo et al. (2010), the plethora of available benchmarking models and lack of clarity makes it difficult to evaluate the level of effectiveness of the various models. It was important, therefore, for DEWA to adopt a model that would enable success. In this case the TRADE benchmarking methodology was selected by the Dubai Government Excellence Program and assistance was provided through the Dubai We Learn initiative to ensure that the model was fully understood and used appropriately. This was not only through the provision of a TRADE project management system and tools but also through providing access to facilitation support by COER and the opportunity for the participating government entities to learn from each other through various events. Of importance was the fact that the adoption of TRADE entailed its integration with the organisation, thereby avoiding the ‘fashion’ risk alluded to by Masden et al. (2017)

**Multiple ideas and best practices** – DEWA adopted a flexible approach to learning from best practices and obtaining ideas for improvement. While benchmarking theorists such as Codling (1992) highlight the importance of carrying out benchmarking visits, DEWA adopted a flexible approach which consisted of benchmarking visits, internal benchmarking, desktop research and externally supplied benchmarking research. In addition, throughout the project, DEWA captured the improvement ideas of a wide range of stakeholders. This approach enabled the benchmarking team to collect 73 improvement ideas and practices for consideration of which 35 were approved for implementation in 2016. One important finding from monitoring DEWA’s project, which was similar to what was found with other Dubai We Learn projects (Mann et al, 2017), is that benchmarking often leads to the implementation of many ideas and practices rather than just one or two. Whilst these individual ideas and practices on their own may not produce a major change in performance it is when they are implemented with others, such as in DEWA’s case of 35 improvement ideas and practices, that major changes or breakthroughs in performance appear to be achieved. Another key finding related to this is that whilst many of the improvement ideas and practices are learnt from other organisations, there are also many generated by the benchmarking
team and stakeholders as result of undertaking the project. It appears that through giving the benchmarking team space and time to learn and visit other organisations, that are often very diverse to their own, it enhances the team’s creativity.

**Overcoming Challenges**

Although the benchmarking project was successful, the benchmarking team did face and overcome challenges. The key challenge was to obtain high level sponsorship support and have the right team members working on the project. To achieve this led to a three-month delay from the initial proposed start of the project in September 2015. Whilst the project was approved in principle in September 2015 it took until January 2016 for the project team to be formed and officially start the project. In this time, the Team Leader who had obtained this initial approval undertook considerable work investigating, in more detail, the challenges faced in marketing Shams Dubai, understanding how benchmarking can be used to address these challenges, proposing who should be part of the project team and gaining the support of three vice-presidents to sponsor the project. As a result of this work an initial Terms of Reference for the project was developed which clearly spelled out the potential benefits.

Another challenge was the identification of suitable benchmarking partners. This is a challenge that has been identified in previous studies (e.g. Taschner and Taschner, 2016). In order to overcome this challenge, the benchmarking team sought external support from COER and through working together identified benchmarking partner selection criteria that enabled the benchmarking team to learn from best practices from outside, as well as inside the solar panel industry. For example, rather than solely learning how other countries have transitioned customers from using traditional sources of power to solar panels, one of the selection criteria was written as “Successful marketing strategies that have quickly resulted in customers switching from an old to a new product”. This led to DEWA learning from many other industries.

**Conclusion**

This case study has investigated, in detail, how a benchmarking project was undertaken in the public sector of the UAE. The case study has shown that success of the organisation was enabled by a number of important enablers such as external support, executive-level support, prescriptive benchmarking methodology and detailed supporting documentation for each stage of the methodology. The study has also shown the importance team commitment and the willingness of team members to give more than expected. The overall suggestion is that organisations need not worry about adopting benchmarking if they take advantage of the multitude of resources and support that is available.

**In addition to the industry insight presented above, this study has further implications for industry.** Firstly, it is important to carefully select a benchmarking model that is suitable for the organisation and which will carefully guide the organisation through the benchmarking process. Secondly, benchmarking success can be enhanced by being willing to seek support when challenges become evident during the benchmarking process. Thirdly, resources and dedication required for successful benchmarking implies a culture of commitment from people at all levels within the organisation including the benchmarking team, senior executives and stakeholder departments.

Finally, the limitations of the project are presented. The study is based on the experience of one organisation that was focusing on a specific problem. Consequently, their experience (e.g. ability to
generate a significant number of improvement ideas) may not apply to all organisations or project choice. Further, the project was carried out within the context of a wider public sector benchmarking initiative that was sponsored by DGEP and this may not be the case for other organisations.

References


World Bank (2016). The Worldwide Governance Indicators (WGI) project. World Bank, Washington, DC


<table>
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<tr>
<th>Model or Author’s Name</th>
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Table 1 Examples of benchmarking models
**Terms of Reference (TOR) Stage:**
1. To have a more focused TOR oriented towards Marketing and Promoting Shams Dubai signed off by 30.12.2015
2. To form project team and officially kick-off the project on 8th Jan 2016.

**Review Stage:**
3. To assess the current performance, practices and systems by reviewing previous marketing efforts and self-assessment and identify the key areas for best practices by Feb. 2016
4. To complete the PMR with identified targets related to the Shams Dubai marketing and promoting part by Feb. 2016

**Acquire Stage:**
5. To have a list of benchmarking partners at least 5 nos. by Feb 2016
6. To have data acquired from site visits to the selected partners at least 1 site visit and to have research based conducted for at least 5 benchmarking partners by Jun 2016
7. To have a list of improvement ideas that can be actioned and implemented at least 5 nos. by Jun 2016

**Deploy Stage:**
8. To have refined marketing activities (ongoing and campaigns) for Shams Dubai with action items to be implemented for the year 2016 and to start the implementation by June 2016
9. To measure and evaluate the Shams Dubai customer awareness and interest on June 2016

**Evaluate Stage:**
10. To measure and evaluate the Shams Dubai customer awareness and interest by Sept 2016 (as a chance to have it as new measure included)
11. To evaluate the marketing performance achieved so far by Sept 2016 and repeat again for the resubmission by January 2017 as compared to the previous efforts prior to Dec 2015.

Table 2  Milestones and Targets suggested prior to commencement of the project.
Figure 1. DEWA's Benchmarking Team's Role and Responsibilities
Figure 2. DEWA Benchmarking Team’s Fishbone Diagram (Review Stage)
• Sponsor buy-in was critical to the success of the project
• Clear definition of scope will facilitate TRADE implementation
• Narrowing the selection criteria for benchmarking made it difficult to identify potential benchmarking partners and research was not easy
• Having set a proper scope and right criteria helped in deciding an initial list of potential partners
• The benchmarking partners’ selection scoring table was lengthy but supported clarifying the need to consider particular organisations as partners
• Good team work and support from existing members was key to the success of the project. Some team members provided support even during times when they were on leave.
• It is very important to identify project scope clearly, by setting up short term targets for long-term projects.
• Benchmarking can be conducted through different methods and not necessary site-visits. i.e Internal Benchmarking and Desktop research were found to be very useful methods.
• Benchmarking did not only give us best practices and improvement ideas but has also confirmed/validated some of our current practices as best practices.
• The selection of the right KPIs will help measure effectively, the success of the project. Teamwork and sharing ideas proved to be the best way for a successful project
• The benchmarking exercise has supported understanding our performance standards vis a via other global benchmarks
• Comparing best practices performance benchmarks supported the identification of performance gaps and areas for improvement
• The TRADE spreadsheet has provided a standardized methodology and processes to achieve actual project improvement
• The TRADE methodology and benchmarking tool has enabled a mind-set and culture of continuous improvement, change management beside learning

Table 3. Key lessons learnt by DEWA’s benchmarking team