Lívia, Róka-Madarász MRICS

PhD student
Department of Construction Technology & Management
Budapest University of Technology and Economics
H-1111 Budapest Műegyetem rkp. 3.
e-mail: madaraszlivia@gmail.com

Abstract: The aim of this paper is to investigate the importance of benchmarking in the field of Facility Management. The appropriate methodologies and techniques of Facility Management benchmarking are demonstrated and the first results of the HFMS (Hungarian Facility Management Society) and the MAISZ (Hungarian Real Estate Association) benchmarking survey are introduced.

Keywords: facility management, benchmarking, real-estate, maintenance, operation cost

1 Introduction

Benchmarking is a multiple step process that allows an organization to compare the aspects of performance, identify the differences, seek out alternative approaches, and assess opportunities for improvement, implement the change, and monitor outcomes. It should all begin with an internal evaluation, comparing performance matrices of your own organization over time. In the field of facility management these matrices can include operating costs, space utilization, operations and maintenance activities, moves and facility management staffing. Many sources are available for analyzing facility benchmarks. Of the facility management data published by trade and professional associations for comparing efficiency in the use of facilities nearly all rely on comparing factors on a per square metre of occupied space or gross area basis. Australian examples of this benchmark data include the Facilities Management Association's Benchmarking Studies, (FMA 1999 and 2002), and the Property Council Operating Cost Benchmark Series. In the UK examples include the Office Density Study (RICS 2001) which measures the amount of space used by various business activities. BCIS is the Building Cost Information Service of Royal Institution of Chartered Surveyors (RICS). BCIS Maintenance & Operating Costs benchmarking data - covering maintenance and operation costs such as cleaning, energy consumption

and administrative costs - has long been relied on by property professionals. It provides a sound basis for early life cycle cost advice and the development of life cycle cost plans. Increasingly, this data is taking on a new importance as the industry places more emphasis on sustainability and whole life costs. The Investment Property Databank. (IPD), Occupiers Property Databank, a benchmarking database in the UK, provides corporate occupiers with a comprehensive range of metrics against which to measure their facility's performance and upon which to base strategic property decisions. Many of these metrics relate costs and business performance to the area of building occupied. (Gibson, V. 2000). The International Facility Management Association (IFMA), one of the most widely recognized professional associations for facilities management, regularly published its Benchmarks Research. The survey includes data from a sampling of organizations throughout North America representing a spectrum of industry types and facility uses.

2 Importance of benchmarking in field of Facilities Management

Maintenance costs are usually the second largest single expense component for facilities operation costs. Having a quantitative understanding of facilities operations lends itself to comparing the organization to others. One common mistake people make when developing a benchmarking strategy is selecting only organizations within their own industry to benchmark against. It should be also compare the facilities to the operation of other facility types. Comparisons across industries will lend itself to estimate the potential that may exist for improvement. Analysis of more descriptive case studies and networking must take place in order to raise the bar. Benchmarking can be an excellent measurement tool when comparing one facility to others in the portfolio. This type of benchmarking can help set company standards for performance and raise expectations through shared best practices. The majority of the metrics used to measure property performance are cost-centred, although some quality rating systems exist. Douglas, J. (1996) concludes that facilities performance measures allow managers to evaluate performance:

- *for property portfolio review, acquisition or disposal purposes,*
- *to highlight where a building is lacking in performance,*
- *to help prioritise maintenance or remodelling works,*
- *to provide identification or early warning of obsolescence in buildings and*
- *to assist in achieving value-for-money from building assets by aiding identification of,*
- *performance achievements as well as failures.*

The range of metrics put forward to achieve this performance measure relates largely to operating costs determined on either a per metre squared basis.

Here are some of the leading importance of benchmarking:

- Identify the best practices
- Help to earn a 'green' designation
- Add value to your facilities
- Support business case for change
- Identify strengths weaknesses opportunities and threats
- Justify costs and practices
- Justify energy efficiency improvements
- Support maintenance reports, maintenance manual, maintenance plan
- Integration in computer aided facility management system (CAFM)
- Support education in maintenance management

2.1 Benchmarking in the Facility Management cycle

In the 1st edition of The strategic role of facilities management in business performance RICS guidance note separates the facilities management cycle into five areas of: strategy; sourcing; operational; review; and continuous development and change management as shown in the facilities management cycle diagram Figure 1. Benchmark metrics are important in any areas of the cycle. Facilities managers have a major role to play in the benchmarking process and in the financial control and reporting processes.

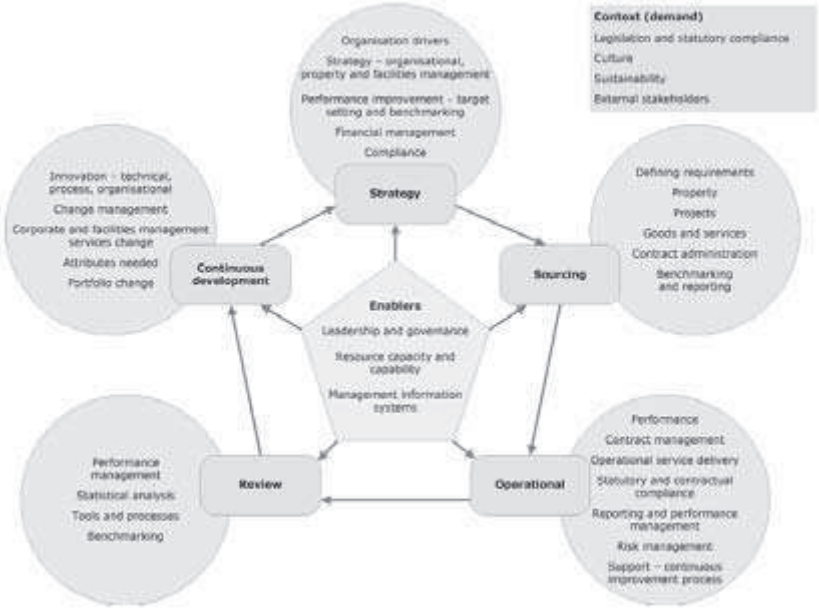

Figure: 1
Facility Management business flows

2.2 Facility Management Definitions

Facility Management definition provided by the IFMA established in 1980 is:
"The practice or coordinating the physical workplace with the people and work of the organization; integrates the principles of business administration, architecture, and the behavioural and engineering sciences."

CEN TC 348 is the Facilities Management standards committee operating across Europe, which works on European standards development.
'a discipline that improves and supports the productivity of an organisation by delivering all needed appropriate services, infrastructures, etc. that are needed to achieve business objectives.'

MSZ EN 15221-1 is the Hungarian National Standard for Facility Management.
'integration of processes within an organisation to maintain and develop the agreed services which support and improve the effectiveness of its primary activities.'

2.3 Importance of the survey for Hungary

Facility management as an industry has emerged as one of the fastest growing sector in Hungary, its weight and importance has been increasing since the mid of 90ies. To sustain future success the FM industry needs a complementary FM profession, one, which can bring to bear the analytical and business skills in the industry. Figure 2 shows the percentage of FM industry in the GDP of Hungary.

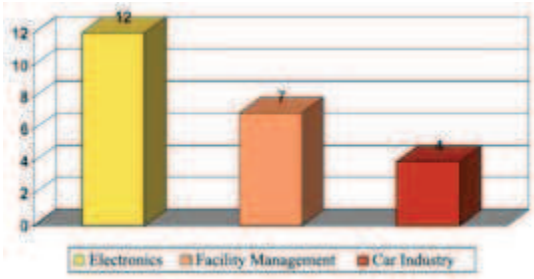

Figure 2
Facility Management industry in GDP of Hungary 2009[1]

[1] Source: Ministry for National Development and Economy

The international ratios and metrics could not adopted, because of the different basic of the survey, different culture, climate, legislation and economical, social, environmental circumstances. We should create our measures and metrics in the local FM business environment and local property market to support FM industry and FM providers and clients.

3 Methodology

The IFMA has developed a method for facility benchmarking that you may find useful to review in developing a benchmark for current FM services. The IFMA periodically sponsors benchmarking research projects and the results are published in benchmarking reports. The Building Managers Association (BOMA) based in Washington DC, publishes an annual benchmarking report known as the BOMA Exchange Report. Another organization that has developed a benchmarking methodology is the American Productivity and Quality Center (APQC). This organization's benchmarking process and related information should be reviewed by facility professionals as it defines and uses benchmarking from a business perspective. APQC also has a Code of Ethics for Benchmarking that you may consider adopting.

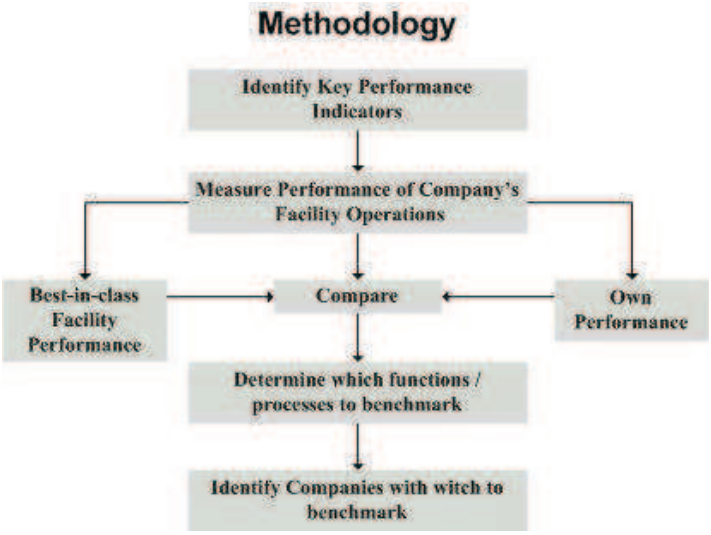

Figure 2
IFMA Methodology of benchmarking process

3.1 Key Performance Indicator

In order to be able to measure the performance of the facilities, a set of so called key performance indicators (KPI) have been defined. By the definition of the indicators, the following important factors should be considered:

- The indicator must be easily measurable, most optimally should come automatically out of a system, if possible;
- Indicators have to be defined not only for monitoring the actual process, but also to control it. Many of the performance indicators used to measure property are based on the area of the property.

1. Description of Facilities Industries represented Facility use, Ownership Hours of operation No. of occupants Location of facility	**2. Sizes and uses of facilities** Gross area, Rentable area, Usable area Square footage per occupant Building efficiency rates Workstation utilization rates Office space per worker Support area	**3. Office space planning** Vacancy rates Space allocation policies Office type and size
4. Relocation and Churn Organizational moves Cost of moves Churn rate	**5. Maintenance, Janitorial and Indirect Costs** Maintenance costs • By age of facility • Percentage of replacement cost • Repair vs preventive maintenance • Outsourcing of maintenance function Janitorial costs, Indirect costs	**6. Utility costs** Utility costs Utility usage
7. Environmental and life safety costs Environmental costs Life-safety costs	**8. Support and Project costs** Security costs Project costs Space planning costs Employee amenities costs	**9. Financial Indicators** Replacement value of facility Lease type and cost Cost of operations Cost of providing the fixed asset Occupancy cost Financial ratios Total annual facility costs

Table 1
IFMA's 9 Key Performance Indicators

3.2 Hungarian Benchmarking organised by HFMS & MAISZ

The mission of the Hungarian Facility Management Society (HFMS) is to integrate the representatives of two closely related professions property management and facility management, to represent their interests and to promote

their professional development. HFMS is a proud member of the GlobalFM since 2006.

Hungarian Real Estate Association (MAISZ) was founded in 1991 as a national professional interest representing organization. Now it has more than 560 members engaged in real estate trade, development, maintenance, property and business evaluation and financial analysis of real estate. The main task of Hungarian Real Estate Association is to represent the members before Hungarian authorities and other decision-makers and promote services of its members.

3.3 Questionnaire survey

The Facility Management Benchmarks Questionnaire was developed in spring 2007. Questions were asked in an objective fashion in order to obtain responses that are truly representative of industry practices. The committee designed and added new questions pertaining to sustainable cleaning, maintenance and utility practices. Information was collected for the research report through surveys which were mailed to HUFMA, MAISZ professional members. More than 26 surveys were returned with 21 deemed usable for analysis in 2009. Members were encouraged to pass the survey to the most appropriate person to complete. Respondents were asked to provide information on the facilities they manage for a 12-month period of time. Many chose to report the data for the 2008 calendar year. Approximately 26 surveys were returned during a 12-month time period. A total of 26 surveys were deemed usable for tabulation purposes. A completion rate of 80 % was considered usable. If a certain question was left unanswered, the respondent was contacted to supply this pertinent data.

The survey questionnaire consists of two parts. The first part attempts to determine activities in which the case study property has participated relative to development, operation and maintenance. In this part the survey gathers resource consumption and costs data over 1-year period, specific operating practices as related to environmental management activities, cleaning. The second part of the survey is focused on gathering information related to the management structure of the maintenance management activities inside the organisation.

Additional calculations were made to determine cost and utility consumption per square meter. Utility consumption data was changed to match the unit specified. Hungarian cost data was asked. If data appeared out of range, the respondent was contacted to determine how the information was derived. New information was subsequently entered. It was selected a convenience sample of 26 firms from a range of core businesses in Hungary.

4 Results

4.1 Facility Management Benchmark

HFMS's and MAISZ's Facility Management Benchmarks report breaks out environmental, health, janitorial, cleaning, maintenance and utility costs by facility type, industry, age, main function, and many other sorts. The report also includes staffing and utility consumption data for more than 199,482 square meter of facilities. The percentile charts in Figure 3 allow you to see how your operation ranks against other organizations. The data should help you identify areas where you can improve the facility operation

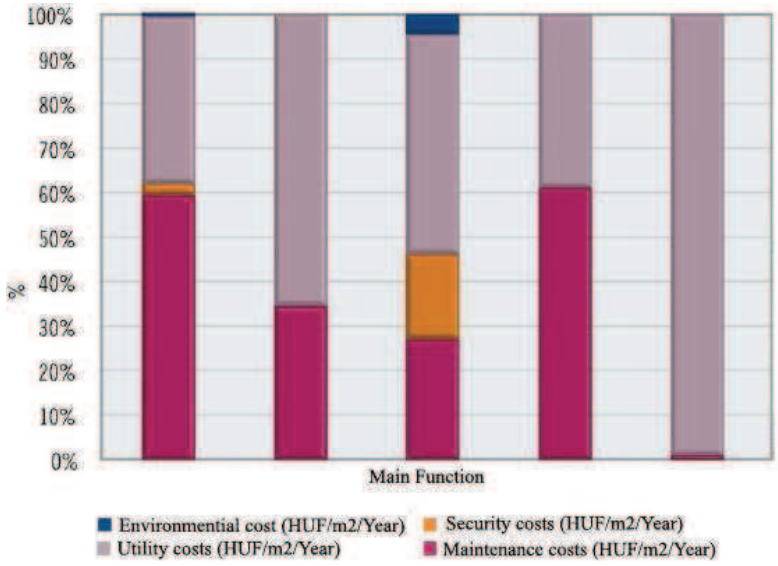

Figure 3
Elements of function specific operation costs

The tables in Figure 4 show the cleaning costs per industry and main function. The main property function are: Office, Cultural, Other, Storage, Technology.

CLEANING COSTS / AREA*

Industry	Total: (HUF/m²/Y)	Total: (HUF/m²/M)
Security Services	433	36
Other Institute	500	42
Other Services	704	59
Electronics / Telecommunication	n/a	n/a
Energy and Related Other Services	2 221	185
Local Authorities	1 466	122
Facility Management Services	n/a	n/a
Others	859	72

* Avarage of Industry specific data ** Avarage of Function specific data

CLEANING COSTS / AREA**

Function	Total: (HUF/m²/Y)	Total: (HUF/m²/M)
Office	1 656	138
Cultural	930	77
Others	681	57
Storage	895	75
Technology	n/a	n/a

Distribution of Values	HUF/m²/Y
Mean Value	1 703
Lowest Value	343
Highest Value	9 823
Samples	19

Figure 4
Cleaning cost pro Industry and Function

The percentile charts in Figure 5 shows that the less of the industry specific operation cost is the Environmental costs.

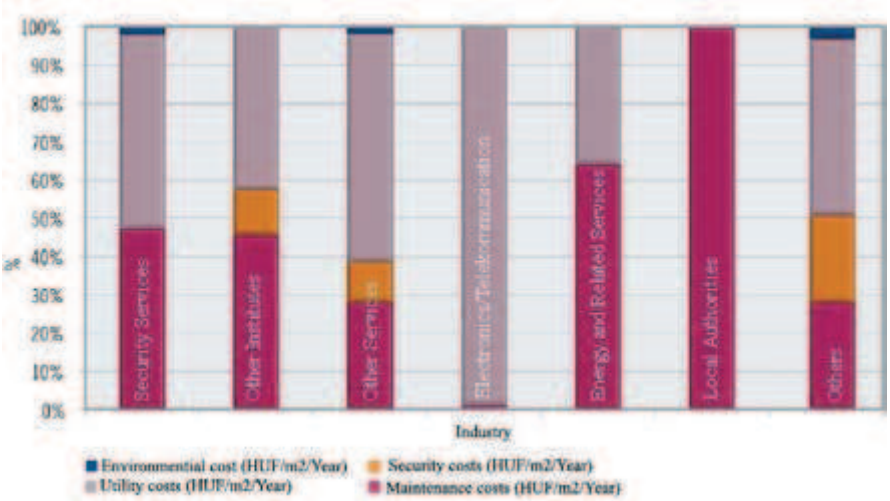

Figure 5
Elements of industry specific operation costs

5 Next period of survey

5.1 Continuing the benchmarking activities

The number of samples in the first period of research was relatively small, therefore the main target is to broaden the range of data providers. The goal is that after two or three periods of survey we can provide metrics about the building maintenance costs for the facility management industry, for the property investors and the real-estate market. Next period of research will be directed towards model structuring for this problem in other types of facilities (like retail and hotels). The research methodology is mature, we would like to create representative sample.

5.2 R&D Partnership

In this phase increase the cooperation with R&D supplier with the Budapest University of Technology & Economics (BME). To achieve the desired goal, to create representative sample in the next period of survey BME took part in data collection as well as in statistical evaluation of the data.

Conclusions

The benchmarking of Facility Management is essential to the successful provision of supporting the FM industry. FM benchmarking is the search for the best industry practices that lead to superior performance. It can be concluded that the method presented in this paper is applicable for benchmarking. It offers an opportunity for improving the organization on a continuous basis and considers any better practice. The results of the research clearly support the case for undertaking a similar survey amongst other types of organisations to ascertain whether the best practice criteria are similar to those of tertiary educational institutions and whether the model can be used for other types of organisations as well.

Acknowledgement

Thanks are given to the following for the organisation of benchmarking received from the president of HFMS József Czerny and the president of MAISZ Péter Mehrli and the members of both professional bodies. Special thanks for the data provider companies. The author would like to acknowledge the valuable help received from Laszló Bérczi board member of MAISZ, and Dr. Levente Mályusz from the Budapest University of Technology and Economics Department of Construction Technology and Management.

References

[1] HFMS MAISZ(2009) *Létesítménygazdálkodási márőszámok 2009,* HFMS, MAISZ, Budapest

[2] Gibson, V. (2000) *The Cost Of Choice: How corporate real estate managers evaluate business space option*. Paper presented at American Real Estate Society annual meeting

[3] http://www.ifma.org

[4] Douglas, J. (1996) *Building performance and its relevance to facilities management*, Facilities, Vol.14 No. 3/4 pp23-32,

[5] IFMA (2001), *Operations and Maintenance Benchmarks*, IFMA, Houston, Tex.

[6] IFMA (1997), *Benchmarks III*, IFMA, Houston, Tex.

[7] RICS (2009), *The strategic role of facilities management in business performance*, 1st edition, RICS, Coventry

[8] Warren C. M. J (2002), *Benchmarking Corporate Real Estate; Fundamentals of Measurement,* Pacific Rim Property Research Journal, Vol 8, No 4 2002 pp277-285