



## MANAGING COSTS

# When it pays to put a value on certainty

Volatility in occupancy rates can have a huge impact on the real cost of occupancy. Michael Mainelli and Rakesh Shah explain how to win over the finance director by putting a value on cost certainty.

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A large facilities management firm recently asked us at Z/Yen to help it make a case to a multi-site client that cost-reduction, while important, should not be the key criterion for choosing their facilities management supplier. As our client was not the least-cost provider, it was essential to identify some other value proposition. We suggested that the key selection criterion should be the facilities management firm's ability to prove it can manage cost volatility at an acceptable level of quality, in other words, the facilities management firm provides cost certainty. The facilities management firm needed therefore to put a value on certainty, and this led to some of the solutions below.

Cost volatility is measured in a number of ways. The simplest measure is to look at the range of possible cost outcomes, typically as a histogram, and then calculate the standard deviation. Where the standard deviation is high, cost volatility is high. Costs can come from a number of sources, such as the firm's data, data from multi-client surveys or industry benchmarks. For the sake of openness and understanding, this article will illustrate two key concepts: risk as cost volatility, and occupancy volatility, with 2001 data from the Total Office Cost Sur-

vey<sup>1</sup> (TOCS) researched by City University Business School and Actium Consult, sponsored by MWB.

### TOCS AND COST VOLATILITY

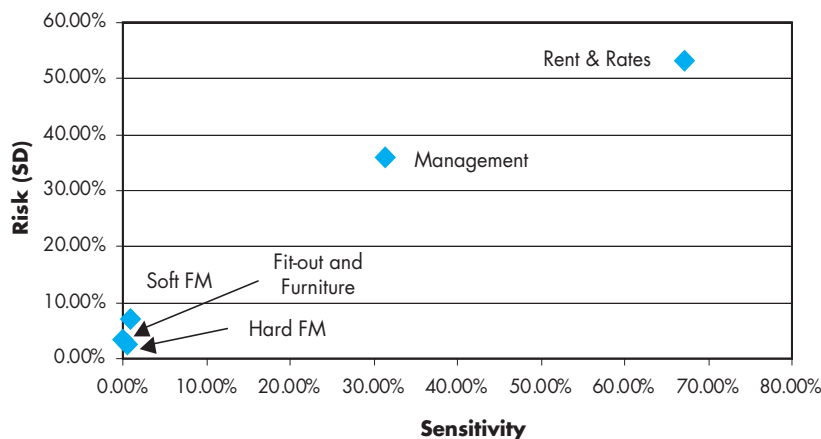
TOCS data is structured around a virtual building of 50,000 sq ft net internal area with 357 staff. This building is meant to be a fully functional, typical office: meeting rooms, catering facilities, and reception all take up space. The costs of the building are also complete – reprographics, energy and security are all included. The building is 'sited' at different locations around the country and costs are provided for each location by a variety of suppliers. Capital costs are spread appropriately and then apportioned to each workstation.

The TOCS data from 2001 provides an average cost per workstation (cost/workstation) nationally of £10,025. Our client also had a special interest in the City, where the average cost/workstation was £16,771. Looking at the TOCS data from a risk perspective can be complex, but we have tried to simplify it. Figure 1 examines the volatility of cost (measured by standard deviation) against the sensitivity of cost (the amount that the cost type influences total occupancy cost). For the purist, the volatility is measured using a weighted average across locations rather than, as we hope to do in future with more time series data, over time at the same location, probably against an index.

In theory, items in the top right should be strategic cost drivers; those in the bottom right need tight control; and those in the top left require innovative contracting and risk transfer. One of the first things that can be observed from the TOCS data is that, according to theory, two headline cost items are strategic cost drivers (rent and rates, and management) and three are unimportant cost risks (soft FM, hard FM, and fit-out and furniture). Clearly rent and rates are the riskiest and most important determinant of cost/workstation. Once a company has selected a location and negotiated rent and rates, the next most important item is management costs. A total outsourcing solution has a lot to offer in controlling management cost risk. More detailed analysis of TOCS has shown that more detailed, line-by-line cost items do not exhibit much volatility. However, most people forget that the TOCS data is based on 100% occupancy.

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Figure 1: Volatility against sensitivity of cost



crowded, but the majority of buildings have some spare space. It is difficult to operate a building effectively without spare space. While the amount of spare space varies tremendously, working with the TOCS team and based on our experience, we thought we would re-examine the numbers using an occupancy rate of 85% rather than 100%. Some readers might argue for a slightly higher occupancy rate, but the principles of the following argument are the same and, looking at real cases, occupancy is frequently much less than people believe.

Firstly, the cost/workstation goes up noticeably as each workstation bears the empty space costs, so nationally from £10,025 to £11,794 and in the City from £16,771 to £19,731. This 17.6% increase is important. As this is the real cost/workstation for a longer-term lessee or owner, the managed office service companies are a competitive alternative, assuming that other strategic issues are ignored.

However, this is not the entire argument. The 17.6% increase is based on no volatility. If volatility were 0%, then the building should be filled up. In reality, a building will go up to 100% occupancy (and perhaps a bit more) from time to time, as well as slipping below the average 85% occupancy on occasions. The volatility is very important. Cost/workstation goes up or down as the building empties or fills. The amount of volatility can be estimated from the occupier's workstation demand and employment. Figure 2 is based on a model that calculates the cost/workstation under different volatilities. The model increases cost/workstation when occupancy drops below 85%, decreases cost/workstation when occupancy rises up to 100%, and increases cost/workstation when occupancy rises above 100% (the model assumes that new accommodation can be found at short notice, but at the 85% occupancy rate).

Figure 2 shows that occupancy volatility is a significant contributor to a 'true' cost/workstation. Property managers should work to determine the actual risk by looking at employment numbers and variations. In our experience, staffing volatility of 25% is quite common – just look at the downsizing and right-sizing numbers as they affect some organisations, or look at the rate of staff increases during booms. The impact of 25% volatility is that space wastage or overflow increases the cost/workstation by £1,695 nationally and by £2,836 in the City.

**SELLING CERTAINTY**

In some cases, Z/Yen has analysed the premium costs of serviced offices as a 'put option' to sell the remaining costs (typically at virtually nil cost) or a 'call option' to purchase temporary space at short notice, although market liquidity is clearly an important factor. If costs are known to be fixed and occupancy is 100%, then these options have little value. If costs can vary and occupancy can vary, then the option increases in value.

The value of these risk/reward options can be priced using standard financial tools and show that, although

**COST/WORKSTATION VS COST/M<sup>2</sup>**

Property and facilities people are starting to pay more attention to cost/workstation (cost/workstation) than cost per sq ft or square metre (cost/m<sup>2</sup>). Cost/m<sup>2</sup> was an apparently simple number that allowed people to compare costs quickly. As with most shorthand measures, it also had shortcomings. Different organisations had different calculations – usable space vs total space; capital expenditure included, amortised or ignored.<sup>1</sup> Perhaps the most important shortcoming was that cost/m<sup>2</sup> was not related to the business.

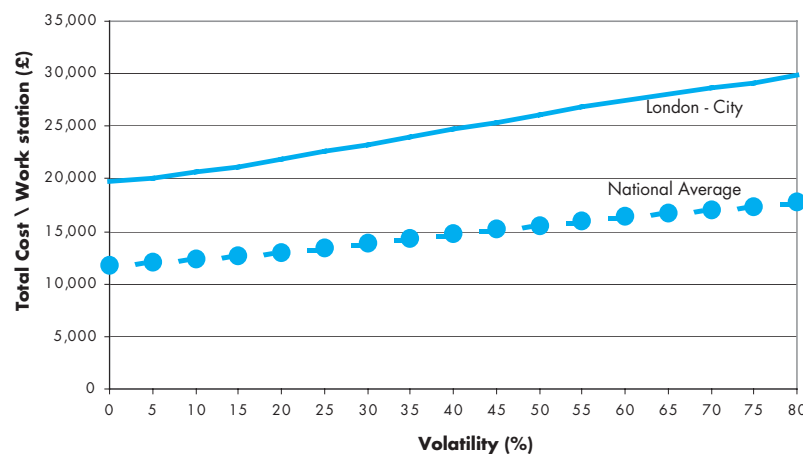
For office-based staffing, which ought to be highly comparable within most organisations if not among organisations, cost/workstation has grown in importance. The move from cost/m<sup>2</sup> to cost/workstation brings property cost measures closer to the business, but both measures are sensitive to their denominator – the definition of m<sup>2</sup> in one case and the definition of workstation in the other. Moreover, cost/workstation raises quite clearly the importance of workstation occupancy.

1. [www.mwbex.com/toc\\_pages/toc\\_home.html](http://www.mwbex.com/toc_pages/toc_home.html)

a more certain cost solution may cost more, the certainty that it won't go over a certain amount has great value. If managed office service providers and facilities managers provide their clients with the tools to help them price risks – occupancy, cost, and so on – they can prove the value that more certain solutions will provide.

Combining risk/reward option pricing with some of the risk and volatility arguments above permits our clients to sell their solutions to finance directors. These solutions must address the actual business risks of the finance directors, which will not just be occupancy and cost, but also revenue loss (not having the staff to execute business) or business interruption. Identifying and quantifying these business risks can be complicated, but we are finding that facilities managers can use these arguments to their advantage in convincing clients that they are not buying words about cost reduction; rather clients are buying the value of cost certainty.

**Figure 2: Cost/workstation under different volatilities**



**REFERENCES**

1. Although do see the OPD International Total Occupancy Cost Code, [www.opd.co.uk](http://www.opd.co.uk), for help with getting things right.