

UTILITY ANALYSIS

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INTRODUCTION

In all business organisations some form of control system is used to monitor production, material, inventory and labour costs - MRPI and MRPII, Just-in-Time, Kanban etc.

The analysis and merits of the many systems have been, in my view, covered in great detail in many reports and books. There is still one often neglected area - that is the auditing and analysis of the company's utility costs.

The bills for gas, electricity, telecommunications, water and sewage are often the largest cost factor in the business operating overheads and yet are too readily paid without their accuracy being verified.

The market for these resources is changing daily and even if the bill is suspect, few business owners ever complain of overcharges, (less than 1%). Many don't have the time, energy or expertise to know where to look for mathematical mistakes, or the credits/discounts available from the tariffs and offers which are under constant review and change from the suppliers.

MARKET BACKGROUND

The advent of de-regulation in the utility markets has created many opportunities to cut costs in energy and telephone bills. Companies can benefit from competitive pricing and increased competition.

The UK has one of the most advanced utility markets in the world, offering a choice that is second to none in the electricity and gas markets. Tendering procedures are giving more choices than ever before.

GAS

There are approximately 50 gas suppliers, but takeovers occur almost on a daily basis. British Gas has lost the major part of the business sector to independent suppliers such as Amerada Hess Gas, Kinetica, Alliance Gas, etc. Many of these are owned by the giant oil companies and savings of upwards of 20% are possible

Until 1993, British Gas held the belief that it would remain the sole supplier to the domestic consumer and on this premise, signed long term contracts at what now appear to be over-priced pence per therm levels. As this article goes into print, news has just broken that British Gas will be split up into two separate companies. A move perhaps precipitated by these long term contracts?

The domestic market is however, opening up with 500,000 West Country customers able to shop around for gas from April 1996. Savings are already being suggested of 15% (Reference Amerada Hess - November 1995). By 1998 nineteen million customers will have the opportunity to defect to a rival supplier.

It is important to recognise that whoever supplies the gas, British Gas will still respond to any problems so that quality and service will not be an issue. British Gas's main hope is that they were not the only supplier that expected the price of gas to rise and the oil producer cannot produce oil without getting rid of the by-product of gas.

On this basis they should be receptive to British Gas's needs to re-negotiate the price of its contacts if they wish to sell their own surplus supplies.

ELECTRICITY

It was so simple, companies used electricity and the local electricity company sent you a bill, you paid it. From April 1994 any company with a demand in excess of 100 Kw. (kilowatt) of power qualified to enter the non-franchised market. (Currently approximately 45,000 business customers).

FIGURE 1

TOP 10 NUMBER OF SITES USING 1000KW//AREA

1/	EASTERN ELECT.	5410
2/	EAST MIDLANDS	5380
3/	LONDON ELECT. B	5240
4/	SCOTTISH POWER	5100
5/	SOUTHERN ELECT.	5050
6/	YORKSHIRE ELECT.	4870
7/	MIDLAND ELECT.	4670
8/	SEEBOARD	4510
9/	SCOTTISH HYDRO	4459
10/	MANWEB	4110

In this non-franchised market they are able to purchase their electricity from any of the current fourteen regional electricity companies (RECs) and three generators. Of the RECs, London Electricity with the highest concentration of 100 Kw. sites (5,240) has most to lose, but even those with a smaller concentration and a supply price higher than the national average could be a target for moves.

To take advantage of the market place it is essential to have Code of Practice Metering (COP5 or COP3), otherwise the customer can only take a supply from their Host REC. If the metering is in place, the other electricity companies will submit a truly competitive quote in the knowledge that the Host REC will recognise the serious intent of the customer to secure the best possible deal.

For the smaller business user, there is the likely reduction of level from 100 Kw to 68 Kw in the pipeline for open tendering. In the meantime, even if the bill is under £12,000 per annum, substantial savings can still be made. It is essential that the appropriate tariff is selected.

WATER

The water market is relatively simple when compared with the gas and electricity markets. There are ten private companies each with a comparative monopoly within their local area.

It is estimated that 25% of the water that is pumped around the UK is lost through leaks. Identifying leaks can save substantial amounts of money. You not only pay for water you are not consuming, but also, because your sewage is based on this consumption basis, you pay an inflated sewage charge.

French companies are showing a keen interest in this market. A proposed bid for Northumberland Water by Lyonnaise des Eaux has been given the 'green' light provided they agree to price reductions of 15% over the next six years and a stock market listing within ten.

Water metering continues to grow in popularity, Anglia Water received 100,000 requests for information in the first few months of 1995.

TELECOMMUNICATIONS

Government policy has resulted in a gradual reduction in British Telecom's monopoly, with a significant number of international telephone companies now in the UK market. Some of the initial entrants are Mercury (owned by Cable & Wireless), Energis (owned by the National Grid), and numerous Cable companies. Also about to enter the market are major companies such as AT&T.

Even in times of recession telecommunications is experiencing significant growth. Developments in electronic technology will continue to produce new and cheaper products and services. With fibre optics gradually replacing the copper lines, maintenance costs will also be substantially reduced.

EXAMPLES OF POTENTIAL SAVINGS

The following cases are based on authentic savings and are used to illustrate what can be achieved. As client confidentiality is of paramount importance, I am not, therefore, at liberty to disclose their identities.

Gas

It is vital to shop around the many suppliers even if the current contract appears to be with a satisfactory independent supplier. A precast concrete manufacturer based in the Midlands with a large process load, was able to secure a saving of 21.9% over the current contract price by carrying out a full market tender - an annual saving of over £17,400.

It must be recognised that these contracts are normally for one year and often have a three months cancellation clause. Tendering must be done in sufficient time in order to achieve the maximum savings. A three year contract is often signed to aid the control by obtaining a fixed budget, but this can be counter productive as you lose the opportunity to change suppliers for additional savings. With the current price-war due to the surplus gas supplies, savings of 20-30% are not uncommon and the future savings look to be even more competitive.

These large savings are found at the non-franchised end of the market, with a £1,100 spend per annum (25,000 therms consumption).

With the franchised sector of the market (below 25,000 therms) or 732,678 Kw, if your annual consumption is below 2,500 therms then the service must remain with the British Gas Public Gas Supply. Above 2,500 therms, any independent or British Gas, may service the supply. British Gas can supply by either their Credit Tariff or SF1 Schedule.

The credit tariff has quarterly bills which have a standard daily tariff and the more you use the cheaper it becomes and the agreement can be cancelled with just 7 days notice. The Contracts SF1 by British Gas has a lower overall average price

but the savings must be offset by the 3-month cancellation clause, which gives less flexibility for change of supplier. There are considerable savings in using independent (second tier) suppliers.

All gas is distributed by British Gas Transco and the cost has increased recently which will probably result in a re-draft of the British Gas contracts SF1 and Credit Tariff. The overall effect will not make much difference to the analysis.

This only reinforces the need to be constantly vigilant in reviewing the market place.

Electricity

Awareness of at least seven alternatives in supply is crucial in determining the appropriate level of prices.

The first alternative is only open to the large consumer of electricity with an annual spend of £80,000-£100,000. With this level of expenditure it may be practical to buy electricity on the high voltage supply market. This can be achieved if the transformer/primary sub-station is dedicated to the client and can therefore be purchased. Due to the high expenditure it is usually found that this end of the market is well covered by dedicated analysts.

A second alternative is to establish if you qualify to tender for the non-franchise market - currently at a 100 Kw of usage. An example of this was a Bakery in Kent. With an annual spend of £12,162 on a Seeboard maximum demand tariff (remember it is the customer's responsibility to select the correct tariff). When they are made aware of the market developments, a full tender in the non-franchise sector enabled a saving of £2,300 per annum to be achieved. A reduction of 19% in the annual budget.

The third alternative question to address is the power factor. Businesses with equipment using large electric motors such as air conditioning or machine tools can benefit from a power survey. Substantial reductions in the cost of electricity could be made.

By a break-even analysis calculation, a fourth alternative can be considered. Dependent upon the circumstances it can be cheaper to change from quarterly to monthly billing or vice-versa.

Both fifth and sixth alternatives can be considered together. You must ensure that you have the most appropriate options MD (maximum demand) time, coupled with the available capacity.

Many suppliers of electricity provide a special rider or variation on a restricted demand and capacity feature. For example, if an office block consumes most of its electricity at night via night storage heaters, within the times of 2000 hours and 0800 hrs, they are not charged during the winter. Only the day demand is charged. Equally the extra capacity required to cover a night peak is discounted by up to 50%.

For the most expensive charge period of November to February, savings of over 60% could be achieved.

The seventh alternative concerns the selection of the most advantageous tariff to suit your working patterns. There are Standard Time of Day (STOD) or Block tariffs. For example:

Q2 tariff for a Bakery (mainly night use).

Q3 tariff for Restaurants/Public Houses (where the concentration of electricity is consumed in the evenings and week-ends).

and so on....

The above alternatives give some indication of the potential savings to be made, but each business requires close analysis.

Water

The majority of businesses are now on a measured supply and by the year 2000, the balance should be on a metered supply.

Metered supplies have a Standing Charge that is based on the size of meter installed. From up to 20mm, it costs only £34.00 per annum, but increases to £2,997 for 150mm. + for the water supplies. In addition for the Sewage Services it costs £36.00 per annum for up to 20mm and increases in price yet again to £3,460 for 150mm +.

With these points in mind it is essential to ensure you have the appropriate size meter for your demands. Where a change in business has occurred it could be that a larger than needed meter is being used. This will result in higher than necessary standing charge costs. It is a simple task to have the meter changed.

Leaks are another source of excessive payments. If the leak is on your side of the meter it is vital to be aware of the problems as soon as possible. A College in Wiltshire had a leak from a ruptured mains under the playing fields. The leak was in the region of 30,000 cubic metres a year. It was two months before this leak was spotted. A refund was obtained for £2,500 for sewage charge, with ongoing annual savings estimated at £2,000.

Un-measured charges - with no meter installed, the standing charges are smaller, but there is no reduction in the sewage costs as with the metered supply, the prices are based on the rateable value of the building.

Even with my domestic supply, I found with the low predicted consumption of water, I was paying too much for the supply and have fitted a meter.

Telecommunications

Telephones have become a commodity business and the ever growing number of telephone companies compete primarily on cost. Unfortunately, due to inadequate management, a reliance on British Telecom results in lost opportunities. Even so, there are savings to be made on BT supplies.

For most organisations, by far the largest proportion of telecommunications spend is on voice (Public Switched Telephone Network). This is an ever increasing area of saving.

Most businesses have a combination of possible savings. An example of this was a company producing snack foods. - their annual spend was £24,000. Savings were achieved by:

- Ceasing rentals of equipment £1,275
- Changing to alternative maintainer £ 455
- Recovery of over-charge of line rentals £ 137
- Ceasing unnecessary line rentals £ 274
- Subscribing to alternative network supplier £3,000 (for long distance and international calls)

A total of £5,000 plus per annum. A saving of over 20%

The need to review Direct Exchange Lines (DELS) cannot be under-estimated. An audit to review your assets is essential to discover unused equipment for cancelling. Maintenance costs can be reduced by the correct selection of an alternative maintainer without sacrificing quality. The maintainer's are all approved to BT standards.

An example of savings was a solicitor's firm in the Midlands using BT to maintain two small telephone systems with 20 lines and 30 extensions in one office and 6 exchange lines and 12 in the other. Cost of maintenance was £2,284 and £1,376 per annum respectively. The same service was provided for a saving of £1,810 per annum.

In addition to the savings made on the elimination of unnecessary equipment/lines and reductions in maintenance costs, there are other areas to consider:

- a) are you on the optimum tariff for your business
- b) should you buy or replace the PBX exchange
- c) should you take responsibility for building wiring
- d) use alternative installers for extension etc.
- e) ensure correct rental or lease payment is being paid
- f) evaluate the benefits/costs associated with a call logger
- g) accuracy of bills should be verified.

CONCLUSIONS

Privatisation has led to a wide-range of choices but unless companies possess both the time for research and specialised knowledge they will not be in a position to take full advantage of the savings on offer. In small to medium sized companies the dedicated expertise to manage the utility costs may not be available but I hope I have highlighted some area for consideration and discussion.

ACKNOWLEDGMENTS

The author would like to thank Auditel UK Limited for their technical support.

About the Author

Mike Simpson, BA is a Member of The Institute of Operations Management and has spent over 30 years in manufacturing, with such companies as Philips, Racal and Graseby working mainly in the material and production control functions.



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