DOES THE USE OF SECOND HAND INSTRUMENTATION MEAN THE PRODUCTION OF SECOND HAND RESULTS?

The similarities between scientists choice of their own personal consumer products such as Cars, HiFi's, Flat screen TV etc paid for using their own (hard earned) cash and their rationale displayed when spending the companies money on a new LC-MS for example for the lab is probably closer than most would care to admit. Assuming colour is not their most important criteria of importance, as with cars, then many of the time honoured criteria come into play. Does it do the job I want it to do, value for money, fit for purpose, service costs, previous experience with specific suppliers, and total cost of ownership, take their place on the 'ticked box' list and of course vary between individuals faced with purchasing an Instrument to do the same specific job in a laboratory.

Chromatography Focus

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At the recent Pittsburgh Conference on Analytical Chemistry and Spectroscopy there were two questions that were put to the various Senior Managers of the major instrument suppliers during the annual Press Conference sessions. The first concerned the anticipated general downturn in the US economy as predicted by analysts (of the financial type!) and what effect it may have on the company performance. Mostly these were gently but firmly batted away with comments of 'we are aware of it and are keeping a watchful eye on it but so far nothing to report'. Not surprising really as no one was going to admit to pushing the panic button in a room full of journalists (some conferences went out live on the web). However the question of 'Is the number of new and nearly new Instruments coming onto the market due to companies undergoing consolidation, out sourcing, restructuring, closing facilities or going bust, of concern to you?' This produced a varied response from 'No, absolutely not' to a reluctant admission that 'yes, it has some effect, but we are aware of it' and the session moved onto something a little more comfortable for the executives.

Here we shall take a look from all viewpoints involved as to the possibilities of the second hand instrument market affecting the sales of new instruments into the market.

Taking a look at the reasons that people do consider buying second hand Instrumentation, the up and downsides for both manufacturers and customers, they are not too dissimilar to criteria drawn up when deciding on which new car to purchase. The major difference being one choice is made with your own money on the line and the other is made using your employers' money. The ramifications of making the wrong choice can be equally painful however.

What fuels the second hand market and where do these Instruments come from?

There has always been a steady supply of instruments coming down the food-chain once Big Pharma have deemed them to be of no further use. They are then disposed of either as scrap, sold to refurbishment houses, or donated to Universities. The latter would appear to have great PR potential but issues surrounding safety certification and Health and Safety guarantees appear to make this unattractive for the donors and generally too time consuming in many cases.

A quick troll through news wires looking for anything that involves the phrases 'Job cuts' and 'Pharma' shows that in the last 12 months alone almost every company that is either classed as Big Pharma or sees itself as that has announced plans to shed jobs totalling over 100,000 within the next 3 years. Not all of these positions are in R+D and Drug Discovery departments but they will be expected to take their share of

the hit. Market consolidations where company X take over company Y for its 'proprietary technology' and expertise for example will result in some duplication and some Instrumentation will be surplus to requirement. Often in the name of expediency where a facility needs to be cleared quickly it is easier to appoint an auction house to clear the Instrumentation rather than contacting all potential customers in-house who have budgeted for something similar but not yet placed the order. In these circumstances it is not unusual for high spec, current technology, under two years old Instrumentation will come onto the market possibly still with warranties often at prices way below original purchase price.

The views from the 2nd hand suppliers stand point

A quick straw poll amongst those involved in retailing the second hand instrumentation shows that business in that sector is booming and is not expected to decrease in the short term. Internet auction sites are awash with high spec Instruments and generally the second hand market has improved its reputation from that of a few years ago. There is much more confidence in the market place that Instruments are not the potential resource consuming, more trouble than its worth image they occasionally suffered from. Suppliers of refurbished Instruments realise their reputations are at stake and they have to differentiate their service offerings to those of the original manufacturers. It is not a one way street however since the refurbishment suppliers do not always win out in bulk purchases from auction houses when what was promised does not always arrive in working order or as promised. Similarly the capabilities of the operators in the past laboratory is something of an unknown (compare with previous ownership of a second hand car) but these days with Instrument manufacturers making their products more user friendly and robust, then misuse is a thing less often encountered.

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The Instrument manufacturers view

The main stance from the manufacturers that I was able to get an opinion from was that they were not overly concerned with the second hand market flourishing for second hand instruments. A firm belief was expressed that their loyal customer base will continue to value their close ties with individual manufacturers and prosper accordingly in a two way street.

However much truth there is in that, the most bullish market increases for Chromatography Instrumentation is 6-8%, yet without exception the second hand refurbishers were reporting growth in excess of that. Ironically the situation is such that just as the Pharmaceutical companies need to maximise profits to plough back into R&D and next generation products, so do the Instrument manufacturers.

The two markets geographically speaking that are raising interest are India and China where double digit growth is current and expected to continue for the next few years. Several manufacturers announced plans to offer to these markets, lower spec versions of Instruments currently marketed as current Technology specifically for these markets. They are assembled inside the markets and are list priced based on those circumstances. It will be interesting to see if any of those, in relatively new condition, come to the European/North American markets to take a share of the previously accepted Big Pharma always want the newest mantra, especially as some Pharma sites in Europe/North America are now under the control of Asian based owners whose Instrument loyalty may be tempered with a financial filter to maximise their investments.

Customer's observations

Consider some of the following areas where Pharmaceutical companies are coming under pressure [1]:

- Escalating R&D Costs
- Cost Containment
- Regulatory Requirements
- Patent Expirations
- Diverse world markets
- Public opinions
- Shareholder expectations

Since many of these have a large financial element associated with their management surely it cannot be long before the attention of the financial managers is drawn to the cost of Instrumentation. Agreed not all areas of the business will be required to make do and mend but some areas may well be encouraged to investigate the options from manufacturers and nearly new auction houses that are open to them.

Most companies when buying new equipment expect to get anywhere from 5-8 years lifetime before they have to dispose of it for various reasons. If you can get hold of a lightly used well-serviced Instrument as a purchaser then its worthy of consideration, assuming it meets the criteria 'to do the required job'. Main 'A' stream Pharma would not be interested in this type of product at the moment but many of the CRO and second tier (in terms of turnover) pharmas certainly are as well as chemical manufacturers and those within the pharma industry whose separations are maybe not so demanding as to require current technology Instrumentation as a de rigueur.

Summary

Certain stances do jump out at the situation and the most widely held is that the top stream of Big Pharma companies will always buy newest most innovative ' technologically advanced ' equipment for their labs – so long as they have the Budgets to do so.

Choices and options have never been more open for scientists needing to buy equipment however. We are not quite at the 'name your price' nor do we see vast numbers of second hand LC instruments filling the pages of e-Bay (one or two have appeared over the years). There are numerous suppliers of reconditioned Instrumentation, sometimes with manufacturers warranty still attached, to tempt the buyer. Whatever the options open to a purchaser, the Instrument companies will have to become savvier to market their next generation products. Customers who for years only bought their Instruments from Company X or Y are now considering the options. In a similar way that certain Pharmaceutical companies are reigning in their R+D spends, Instrument manufacturers have

always fed the market with fully trained service engineers who are more than willing to service equipment 'at highly competitive rates'. The requirements on Instrument companies to protect their investment in current generation technology along with future generation Instruments is tightening. Software updates, approved spares only available from manufacturers are ways of locking in customers as are incentive programmes to ensure customers remain loyal to the manufacturer, best cost of ownership figures, and of course there is the good old fashioned ploy of offering the lowest price (we match any quote) or making a ' value proposition' you can't refuse.

The Instrument manufacturers certainly do have the marketing budgets and personnel to fight their own corners in this battle for Big Pharma R+D spend and can offer individual incentives not seen on a price list such beta testing of new technologies to loyal customers. The potential that a specific technology may offer a competitive advantage to a particular Pharma company may, once factored into the equation, turn heads purely away from the purely purchase price considerations.

Assuming that the major suppliers are in comfortable relationships with the Big Pharma companies, are there any previous business models to act as a reference point/warning?

Around 10-15 years ago it would not have entered the minds of any major Pharma company to have anyone other than the manufacturers factory trained and employed engineers servicing their equipment using only 'manufacturers approved components'. Now there is a flourishing market for servicing by 3rd party companies once manufacturers warranties have been exhausted even within Big Pharma. We also have the slightly surreal situation whereby some Instrument suppliers are offering to service Instruments supplied originally by competitors as well as their own brands.

As with similar situations in any commercial field those manufacturers who are the most observant, fastest reacting and innovative when it comes to changes in the landscape will reap the rewards. Those who do not react will take their chance on the high seas of customer loyalty and their ability to harness that with their technology.

Watch this space as the engagement continues. Tip of the iceberg – maybe.

References

[1] International Labmate, July 2007, pages 6-7

Micro-GC as a Portable Monitor for Dump Gases

The targets of dump monitoring are twofold: O_2, CO_2 and CH_4 to maximise the production of CH_4 and amines, mercaptanes, aldehydes, acids to keep the smell under control. The most common instruments are optical or electrochemical: compact, quick and easy to use, but they are poorly selective and subject to interferences.

Microgaschromatographs separate the air sample reducing interferences, can measure a wide range of compounds and are quick enough thank to micro instrumental components. The micro-GCs are often big, as they require battery, gas canister and a laptop PC and their software can be used only by a trained technician. The Vega-GC by **Pollution SpA** is engineered for the field.

It is compact, lightweight and ergonomic, and it incorporates gas canister, battery and PC with a touch-screen as user interface. The software is so user-friendly that any worker can use it, and it identifies any strange result, so that the user can repeat the measure or call the technician.

The latter is required only to setup the analytical method (instrumental parameters, calibration and alarm thresholds) and maybe review the automatically stored data. Vega-GC gives very accurate results (determining many components with no interference) and reduced costs (requiring no specialised personnel to perform the analysis).