Through-life aftersales service management: delivering on the challenge

Professor Richard Wilding and Professor Rajkumar Roy are working hard to promote best practice in through-life aftersales service management at Cranfield University. They discuss the significant opportunities to be had in offering this service and the significant gains those currently taking advantage of this field are experiencing.
The sales pitch was slick and convincing, and at its heart lay a compelling piece of logic: instead of making a large expensive purchase, why not buy the same thing through a monthly or quarterly contract?

From an affordability point of view, the attractions were obvious. Forget dipping into scarce cash reserves – or taking on borrowings – to fund a costly item of capital expenditure. Instead, the transaction could simply be viewed as operating expense, paid for out of earned income. Better still, by opting for a contract, a number of potentially valuable add-ons would be bundled in: maintenance, for one; an uptime guarantee, for another; the provision of a replacement – temporary or permanent – in the event of a serious breakdown; and an assurance of future proofing, avoiding the dangers of being locked into yesterday’s technology.

In short, this all adds up to an attractive proposition and one, moreover, that is increasingly being given serious consideration by buyers and sellers alike. What exactly are we talking about, though? In other words, what precisely is being purchased? The answer, perhaps surprisingly, is that it depends on who is being asked the question.

Talk to a number of high-value manufacturing companies, for instance, and the sales proposition in question might relate to complex engineering systems – for example, railway locomotives from specialist rail engineering firm Alstom, power generation equipment and aircraft engines from firms such as Rolls-Royce, or aircraft from firms such as BAE Systems and Airbus. In short, popularised by Rolls-Royce’s well-known ‘power by the hour’ contracts, today such deals are a growing proportion of revenues within a growing number of business sectors.

However, talk to a group of manufacturers producing products of not wildly dissimilar complexity, and a different set of assets...
and equipment is covered by such contracts – for instance, cars, where two and three-year deals, including servicing, are readily on offer to fleet operators and individual consumer; computers and office printers, where Hewlett Packard is increasingly making a name for itself with this kind of proposition, as is Apple; or office equipment, such as photocopiers, where copier manufacturer Xerox was an early adherent of the approach.

As with those manufacturers producing complex engineered systems, business-to-business trading relationships are an important part of the market, but so, too, are business-to-consumer relationships – think cars, smartphones and computer equipment, for example. Welcome to the brave new world of aftersales services. From aircraft engines to cars, and from computer equipment to locomotives, examples abound of companies – buyers and sellers – placing a high and growing value on the reliable delivery of high-quality, cost-effective aftersales services.

At one extreme of the spectrum, as in the examples above, there is the provision of aftersales services – including financial services – offered alongside the use of an asset as part of a packaged bundle. As such, it is this provision of aftersales services that distinguishes such ‘power by hour’ transactions from simple hire-purchase or leasing arrangements. At the other extreme, the provision of such aftersales services may be less tightly bundled with the initial use or acquisition of a particular asset. Indeed, the asset in question may have been acquired some time previously.

Nevertheless, for buyer and seller, the availability of aftersales services is of distinct interest. To the buyer, they represent a way of, for instance, extending the useful life of an asset, improving its efficiency or reliability or extending its capabilities. To the seller, they represent a way of deriving additional revenues from an existing customer, and exploiting technical insights and experience that are perhaps not widely available, and that have been gained from having been the manufacturer of the piece of equipment in the first place.

Win-win situation

Irrespective of which end of this spectrum best characterises a given transaction, the term ‘servitisation’ has recently become something of a shorthand way of referring to such arrangements. Simply put, instead of solely selling the products that they manufacture, businesses can also tap into a growing market for the sale of aftersales services alongside those products.

Which services? There is no standard answer. Financial services, to be sure, if the customer wants to rent or lease equipment in order to avoid taking an asset on to its books by way of a large expensive purchase; but also almost certainly a variety of aftersales maintenance, spare parts, upgrade and refurbishment services. The aerospace and defence sector has long led the way the case of upgrade and refurbishment services through various programmes to update aircraft, ships, and land-based systems to more modern specifications. Moreover, the evidence points to better performance and asset longevity outcomes from such a service provision model. Financially incentivised to employ best-in-class predictive maintenance techniques in order to optimise uptime, the calibre of maintenance carried out under such contracts has been reported to reduce downtime, increase availability and extend assets’ viable economic lifetimes.

Defence manufacturer BAE Systems’ Typhoon Availability Service, for instance, is part of a five-year £450 million maintenance outsourcing contract for the Ministry of Defence in 2009, targeted on saving £2 billion over the 25-year anticipated operational life span of the Royal Air Force’s Typhoon Eurofighter multi-role jet fighters. Under it, says the RAF, the critical Aircraft on Ground Awaiting Spares measure of aircraft non-availability has reportedly fallen to around 4%, from a level that was previously often in double digits.

Yet if the attractions of such a service-centric model are increasingly compelling to customers, the charms are fully reciprocated in the eyes of those businesses that are offering it. Simply put, offering their wares in
cartridges on much higher margins. More recently still, the company aims not only to sell these inkjet cartridge and toners, but also actually anticipate the demand for them through internet monitoring of printer use, despatching cartridges to customers’ homes and offices just in time.

In short, offering aftersales services – whether as part of a full-blown move to servitisation or not – helps to create customers who are less likely to move to a competitor. Using the example of Rolls-Royce again, its fiscal year 2013 accounts show an order book of £71.6 billion, dwarfing the company’s latest annual revenues of £15.5 billion almost fivefold.

**Opportunity knocks**

If the attractions of the model are clear to those businesses that are offering it or thinking of offering it, less clear is how precisely to optimise the cost-effective and hence profitable delivery of that aftersales service model, especially when taking into account the very varied nature of service delivery involved. Why does this matter? Because the potential of this servitisation-based model is far broader than the global multinationals that to date have been among its most enthusiastic advocates.

In other words, pinpoint the rules for rolling out the model successfully, irrespective of organisation size, and it is clear that many more businesses could profitably offer their wares on this basis. Yet pinpointing the secrets of a successful aftersales service offering is not necessarily a simple matter, especially when looking for insights applicable right across the spectrum, from a full-service ‘power by the hour’ contract at one end to a more arm’s-length ‘maintain, repair, refurbish’ offering at the other.

Moreover, having sold a piece of equipment and an associated aftersales support service, the manufacturer has generally locked in the sales of original equipment manufacturer-branded spare parts, often at attractive prices. Consider Hewlett Packard, for instance, which famously sells printers at a low margin, but the associated inkjet and toner

Defined as: ‘those technical services that are necessary to guarantee the required and predictable performance of a complex engineering system throughout its expected operational life with the optimum whole-life cost.’ through-life engineering services embrace such individual service offerings as maintenance, repair and overhaul, autonomous maintenance, obsolescence management and service cost modelling. Less predictably, perhaps, through-life engineering services also include augmented reality-based maintenance training and visualisation, diagnostics and prognostics, design and manufacturing for maintenance, and virtual service engineering.

To all those other businesses pursuing an aftersales service-centric model, the world of through-life engineering services will inevitably seem somewhat centred on engineering. To them, the phrase ‘aftermarket supply chain’ best sums up the challenge that they are striving to meet.

**Twin-track thinking**

Put another way, whatever the label attached, these two very different groups of businesses each face common problems – for example, forecasting the demand for specific aftersales services; establishing reliable and cost-effective capabilities to undertake processes such as maintenance, repair, and overhaul; being able cost-efficiently to position and support personnel working on customer premises undertaking such activities;

this way yields a number of distinct benefits. For a start, a business operating in this way becomes more resilient, for while the demand for physical products can fluctuate through seasonality and the economic cycle, the demand for aftersales services is more stable. Revenue recognition, too, becomes less lumpy, aiding profit predictability and smoothing cash flow.

What is more, the provision of aftersales services is generally more profitable than the selling of equipment and also helps to generate a long-term forward demand for those aftersales services. According to its fiscal year 2013 accounts, Rolls-Royce earned £6.7 billion from the civil aerospace sector, 72% of those revenues coming in the form of its TotalCare ‘power by the hour’ offering.

Obsolescence Management? Ditto. Augmented reality-based maintenance training and visualisation? Almost certainly. Autonomous maintenance? Quite probably, although not using that precise term. Augmented reality-based maintenance training and visualisation? Almost certainly, although it is likely to involve the staff in your local Mercedes dealership, rather than you as the driver. And so on, and so on.
being able to predict and optimise the inventory required to support such activities, and then moving portions of that inventory to specific locations – including customer premises – as required; and being able to do all this and undertake other comparable activities in a way that fosters good customer relations, and that opens the door to future business.

Moreover, in order to reduce the whole life cost associated with the challenges that are involved in this, close collaboration across the supply chain is essential. Business and technological risks will need to be shared, and there is a need to improve the incentives on offer to encourage suppliers to share these risks.

All of which begs several questions. Why, precisely, are two different groups of manufacturers approaching the delivery of much the same aftersales services in two different ways, often using two different sets of terminology to describe much the same thing? Worse, why are they each establishing two different sets of underlying business processes to model and measure what is essentially the same thing? Where is the common ground on which they share insights, experiences and best practice?

In one sense, the answers to such questions are frankly disappointing. There is no good reason for such an artificial division in how these very broadly similar aftersales services are offered, and nor is there a valid reason for modelling and measuring them in different ways. The lack of a common forum for communicating and sharing insights and best practice cannot be helping any manufacturer that is operating a business model reliant on aftersales services.

On the other hand, such a situation simply serves to highlight the scale of the opportunities that such manufacturers could grasp. Simply put, there is ample room for progress, and that progress is likely to help manufacturers offer their various aftersales services more cost-effectively, more competitively and in a manner that yields greater customer satisfaction.

Here at Cranfield University, we are already moving to recognise the fusion of best practice, business processes and measurement paradigms that ought to take place. As the world of business moves increasingly to compete through such service-based offerings, we expect our work in this area to increase. There is a significant opportunity to be grasped, and we expect the winners in the field to be the early adopters who move to seize the opportunity quickly.

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