



Teaching Case Study:

Odyssey Sales Ltd



Odyssey Sales Ltd – Brighton, UK

Origins

John Boyce is regarded as something of a veteran in the photographic enlarger business. From his start in 1958 as an apprentice with the De Vere darkroom equipment manufacturer to the present day, John has been part of the transformation in the technology of photography. Over his career, the market has seen the rapid growth of companies spotting an opportunity presented by technical change, and the collapse of many that found the business environment too fickle and tough.

For the nimble and adaptable, this environment has offered opportunities, and for John the first of these was when in 1992 De Vere, his employer for over 30 years, ceased trading. The emerging digital photography market, combined with declining business in the face of a recession proved too much for it, as the range of enlargers that it made were rapidly becoming obsolescent. Grasping the initiative, John responded to redundancy by establishing his own business, Odyssey Sales, to continue with the manufacture, supply and maintenance of a range of professional imaging equipment.

Five years later in 1997 Odyssey Sales acquired the De Vere name and started to develop adaptations to the company's traditional photographic enlargers. Recognising the steep growth which digital technology was starting to create within the camera sector, John saw the potential of modifying their existing enlargers, which worked from conventional film negatives, into models which could accept digital inputs. This would allow the photographer to enlarge and print digital images onto photographic paper, obtaining a quality of result much higher than from a direct digital printer.



The De Vere 203 bench-standing enlarger – traditional technology

Development of the business – manufacturing in China

An early issue for the revived De Vere business concerned the margins available on the equipment which it was manufacturing. A substantial part of its business was in the refurbishment of second-hand enlargers. This allowed it to capture a sizeable segment in a key market – Further Education Colleges running courses in Photography. Although significant in volume, this market was highly price sensitive and was geared frequently to the purchase of refurbished equipment. At £2,500 a refurbished enlarger was more attractive to a College than the £6,000 equivalent new machine. For John Boyce however this produced a significantly lower sales margin.

A principal method of promotion that Odyssey Sales used was to exhibit at photographic trade shows. At one of these in the USA, John encountered the owner of a small Chinese manufacturing business in 1998. There was an immediate meeting of minds, as both men shared the conviction that current technical developments would impact the enlarger market in a significant way. But this would require a step-change reduction in pricing, in line with the trend that was sweeping all areas of digital application at the time.

Following the exhibition John shipped a De Vere enlarger to the Chinese visitor, who would then make a copy of it at his factory in China. John did not have high expectations but when the copy was delivered, the result was a machine which was indistinguishable from the UK manufactured original. However at a cost of US\$250, it could be made at one quarter of the UK manufacturing price.

The two businesses reached an agreement for the Chinese manufacturer to supply its home market at a 10% fee to Odyssey. Odyssey Sales would take shipments from China and would sell to all other markets.

The outsourcing of its manufacturing to China revolutionised Odyssey's pricing structure. Now a new enlarger could be sold in the UK at a price which had previously secured only a refurbished model for the customer. Odyssey could sell a new machine at £2,500 whilst fully maintaining its margin.

However its business still centred on traditional enlarger technology – albeit now substantially cost-reduced – leaving the challenge of accepting digital input still to be cracked.

Shifts in the College market

Over this period the photography Colleges had made a premature move from traditional printing with wet chemicals, to digital equipment and bubble jet printing. This had seemed to be the right thing to do at a time when digital photography was sweeping the field. However the Colleges were now finding that students failed to acquire the knowledge to support their core understanding of photography if they focused purely on digital processes and methods. It was important that they built a knowledge of aspects such as colour density, dyes and film grain which were central to traditional photographic techniques before moving on to consider digital approaches. The Chinese contract enabled Odyssey to supply the price-sensitive College market profitably in this period when the sector was showing a renewed interest in conventional photography processing methods.

By 2002-2004, the retail digital camera market was expanding fast, with prices falling and specifications (e.g. pixel density) increasing. Image quality could approach the level that had been available with traditional film methods. The photography Colleges made the change, this time for good, from a focus on traditional processing to one on digital methods.

German know-how

It was around this time that John Boyce made a further strategic partnership that was to prove to be a turning point for his venture. Technical work in Germany was advancing significantly and was leading to the adaptation of film development and printing equipment to digital formats. Odyssey Sales had good contacts within the photography equipment sector in Germany. Over many years, for example, it had used the sophisticated Rodenstock lenses within their enlargers.



Apo-Rodagon-N series lens from Rodenstock

John recognised how his own engineering know-how, and his experience of putting it to use on the development and improvement of enlargers, could form the basis for the creation of a digital machine. What he lacked was leading edge electronic and software expertise – and where he came to find this was in Germany through the beginnings of a collaboration with a small software business called Mullersohn. Mullersohn was able to build a software interface which allowed a sharp visual image to be created from a digital camera file onto a highly advanced Sony Epson LCD screen. The LCD screen could then be used in an enlarger in place of the negative in conventional film. A light beam was then projected through this ‘virtual negative’ and images were focused and sized in the same way as a conventional enlarger.

This collaboration between Japanese electronic manufacturing (Sony Epson), German software engineering and Chinese manufacturing for the chassis was highly effective. It allowed John Boyce to apply his engineering, assembly and market knowledge, and to share the development costs, and resulted in a product that was affordable on the market. With the exception of Sony Epson, each of the partner organisations were centred around its own single entrepreneurial individual.

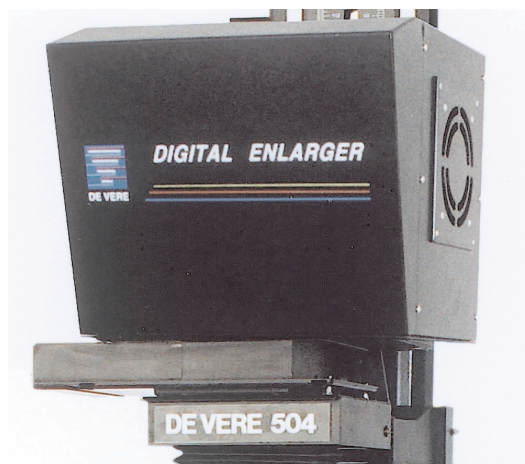
The emergence of this affordable digital enlarger in 2004 put a high quality output machine into the market, but without the high capital cost and ongoing maintenance that other manufacturers’ digital enlargers had entailed.



The 504 DS De Vere digital enlarger – megapixel LCD technology

Quality that appeals to the Artist

The attractions of Odyssey's digital enlarger appeal particularly to the niche market which requires high-quality photographic printing. The large format prints central to the art, advertising and promotional markets require a very degree of enlarging. This is normally made possible by traditional film in which the 'grain' can contain substantially more bits of information than digital pixels. For the large majority of amateur purposes digital pixel data is adequate. However the substantial enlarging of a digital input which the art-photographer requires results in the pixels becoming visible, creating a ceiling to the size of image that can be printed. One of the secrets to Odyssey's technology was the ability to cause the pixels in the LCD image to "dither" – that is to move imperceptibly so that a single pixel has no clear edges. Each pixel is therefore not visible as a discrete spot within the printed image. The degree of enlargement which is possible is therefore significantly increased without losing sharpness and quality in the print.



The LCD panel, core of the 504 DS enlarger's technology

This is Odyssey's distinctive process which ensures that separate pixels cannot be distinguished visually in the print. It provided the unique sales proposition (USP) which opened the appeal of the Odyssey machine to the professional art photographer. In addition the technology has driven the specification from 5 million pixels per LCD screen to 8 million and now to 17 million, so that Ilford's prestigious "Master Printers" will now attach their personal signatures to work generated using Odyssey equipment. This endorsement is a source of significant selling advantage to Odyssey.

Education sector in the American market – cost imperatives

The historic commercial customer base for traditional enlargers has now largely disappeared and been superseded by the photo lab. Colleges and institutions comprise the remaining market and the De Vere name is well-respected within that sector and is being successfully applied to the new digital products.

For its standard commercial enlarger, Odyssey's costs in manufacturing are £12,000 per unit, with a sale price of £18,000. This is discounted to £16,500 for educational institutions. In addition to equipment supply, the service provided by Odyssey within this price comprises installation and training. Significant hands-on guidance is given to the customer during installation at no additional cost apart from travel expenses.

The company's marketing focus is now switching to the US market and particularly to US art and photography Colleges. Odyssey's approach has been to find an agent for digital enlargers in America and it has done that through Ilford, a big player in the US particularly in black and white photography. John Boyce attended a US exhibition, the PMA Show, supported by £2000 of funding from SEEDA, through which he met Freestyle Photographic Supplies, the agent for Ilford. 90% of Freestyle's business is with the US education market and it thus matches Odyssey's requirements and target very well.

Within the US, Odyssey's selling price converts to US\$38,000, a figure which is too high for the Colleges market. The company had commissioned a brief survey of that market by Freestyle and through this has established that the US selling price must be below \$20,000 in order to be considered seriously within the Colleges market.

As a result of this research, Odyssey has embarked on a strategy of developing a smaller machine which meets the constraints of the US market and which can then be test-marketed in that region. The company aimed to have a cost-reduced model available for the US market by end 2008.

Risk management

John Boyce recognises that a key strength of his business comes through the partnerships which he has with the other organisations involved in the manufacturing process. It is also a source of some risk. Each player (except Sony Epsom) is a relatively small operation, dependent in most cases on one key individual. The interrelationship between these organisations and the role that each fulfils provides a valuable defence against competitive entry, since it is difficult to replicate. However Odyssey sees it as a strategic imperative to secure a degree of supplier-diversification, or some strengthening of the supplier organisations, to help protect it from competition.

Financing the business

All funding for the business has come out of cash flow, with no outside funding now and an ongoing choice not to seek loan finance. Development costs are kept manageable by sharing with their partners and by proceeding on a stage-by-stage basis. There are some questions over the stability of the German partner but these are manageable for the present. The subcontracting theme is an important one, which Odyssey wishes to maintain, and which allows it to focus on sales, final setting-up and marketing expertise as its own priorities.

People

The successful team that has been key to the most recent developments of the business has been a combination of John Boyce's technical, engineering and enlarger market expertise; Mullerson and the further development of emerging German technology; John's son James Boyce's computer literacy; and a mechanical service engineer engaged on an hourly basis for set-ups and installations. Office management and bookkeeping has been handled by John's wife Lesley.

Business has developed from an initial £2,500 turnover in 1998 to a level now stabilised around £500,000 – £600,000. Costs, particularly fixed costs, have declined as previous employees have retired and others had resigned without full-time replacement.

NOTES FOR TUTORS

Questions to consider

1. How should Odyssey best grow its business at this stage of development?
 - Penetrating the US Colleges market is the principle growth opportunity, and development of the cost-reduced digital enlarger model is a key step to enable this
 - A cost-reduced model will have benefits in existing markets as well, giving scope to improve margins
 - Tough economic times may lead to increased public sector opportunities – capitalise on Odyssey's positioning within education sector

2. What are the competitive risks arising from the company's business model and how should they be mitigated?
 - Dependence on individuals and the skills they bring – seek to diversify away from this, or to replicate the skill base so as to build some slack
 - Relationship with Chinese manufacturer; German lens and software suppliers; informal linkages and ways of working – develop management systems, and start to protect intellectual property
 - Limited financial robustness (except Sony) – consider additional sources of capital, and potentially sharing an equity interest

3. The Colleges market and the professional art photographer market have distinctive needs and priorities. How should Odyssey manage the application of its resources between these two markets to best effect?
 - Segmentation of their markets, and adoption of distinctive marketing approaches to them
 - Distinguish the high-quality aspects of their product from the economical solution which the cost-reduced product will offer, and differentiate ways of promoting them

Update – Autumn 2008

Over the summer of 2008 Odyssey successfully built a prototype of a cost reduced digital enlarger which it could take to the US for test marketing purposes.

The German partner, Mullerson, secured additional capital into its business and significantly improved its robustness.

These two developments have led John Boyce to have a substantially more confident outlook regarding the medium-term development of the business. There remains a question about the extent to which the owners of Odyssey will wish to drive the business indefinitely, since its interplay with the rest of their lives is significant to them. As John Boyce puts it quite calmly: *"If it carries on, I'll do it. If it stops, I'll disappear."*