



On Being a Knowledge Angel

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Abstract. This article gives an unashamedly autobiographical view of entrepreneurs, knowledge angels and the relationships between them, being based on the author's direct experience of five start-up companies. It first distinguishes knowledge angels from venture capitalists and business angels, defining knowledge angels as business angels with little capital. Its core is tailor-made case histories of the author and of two young entrepreneurs on whose boards he has worked. This makes it possible to consider the attributes of the author as a knowledge angel and also to identify key characteristics of successful graduate entrepreneurs, including the need for appropriate flexibility; for colleagues who provide a stabilising influence; and for continuous learning from experience and observation. The paper then considers what entrepreneurs seek from knowledge angels – especially experience, expertise and contacts – and what angels obtain for themselves. Finally, there are suggested approaches for future studies in this field. From this article, students and teachers with little business experience will obtain a better understanding of the way that entrepreneurial companies operate, their key business issues and personal relationships within them. It gives readers outside the UK a rare opportunity to identify similarities and differences between start-ups in the UK and in their own countries.

Keywords: knowledge angels, entrepreneurial case histories, support networks.

1. Resume: the Author

Sir Douglas Hague has had an unusually varied career. After holding teaching posts at University College London (UCL) and Sheffield University, in 1963 he became a founding Professor of Manchester Business School, where he is a Visiting Professor. In 1981, he became a Fellow, later an Associate Fellow, of Templeton College, Oxford.

Sir Douglas's publications began with a standard work, *A Textbook of Economic Theory*, written with A W Stonier, but later books moved on to aspects of business and of universities. Following his book *Beyond Universities (1991)*,¹ he has studied knowledge businesses and their links with higher education, writing on this in 2000 with Kate Oakley – *Spin-offs and Start-ups in UK Universities*.² A steadily lengthening series of case histories written by Sir Douglas, mainly about high-technology spin-offs from Oxford University, is now freely available on www.science-enterprise.ox.ac.uk.

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1. Sir Douglas Hague, *Beyond Universities*, Institute of Economic Affairs, London, 1991. ISBN 0-255 36244-7.
 2. *Spin-offs and Start-ups in UK Universities*, Committee of Vice-Chancellors and Principals (now UniversitiesUK), London, 2000.

Nationally, Sir Douglas was Deputy Chairman of the Price Commission, which controlled prices in the UK in the 1970s. In parallel, he was a personal economic adviser to Mrs (now Baroness) Margaret Thatcher from 1967 to 1979. When she was elected Prime Minister in 1979, he became an adviser to the Prime Minister's Policy Unit at 10 Downing Street. He was then, from 1983 to 1987, Chairman of the Economic and Social Research Council which funds UK research across the social sciences, mainly in universities.

In business, Sir Douglas was a director of two substantial companies, but since 1984 has increasingly been associated with entrepreneurial businesses. Between 1970 and 1996 he was a non-executive director and/or non-executive Chairman of five start-up businesses.

2. Venture Capitalists and Business Angels

I begin by introducing the concept of a knowledge angel. In the UK, as elsewhere, start-up companies are often supported by numerous individuals and organisations. Venture capital businesses are the largest and most formal of these, providing substantial amounts of finance (in the UK, at least £500,000 per company). In a sense, they serve investors more than entrepreneurs: by for example, identifying and evaluating business opportunities, helping to write business plans, carrying out due diligence, providing technical and managerial coaching, offering advice and assistance etc.

Business angels operate less formally and provide smaller amounts of capital, though their agreements with start-ups are again formal and clear. Some business angels operate as individuals, providing both significant external finance and much of the outside advice a company receives in its early stages. They may therefore have closer personal links with companies they support than do venture capitalists.

In the UK, some business angels operate as brokers, heading what are effectively syndicates of business angels, whose members are collectively wealthy enough to provide very substantial external finance for start-ups. The lead angel is then likely to offer a start-up much of the continuing advice and assistance it receives, but other members of the syndicate may join in to extend the range of help available.

3. Knowledge Angels

Until four years ago, I had never defined my own role in start-ups. I then met Roger Ashby of the London company Venture Technologies, who argues there are two kinds of "angel". Alongside business angels who do have capital, Roger

Ashby points to people, like himself and me, with little free capital. He calls us “knowledge angels”.

As the name implies, knowledge angels offer advice rather than finance. Though they may invest modestly in firms they help, they will offer one or more of three other benefits. First, they may offer specialist knowledge, especially in areas like marketing, finance, IT or business strategy or in more operational fields relating specifically to the company in question. Second, having “got around” in the business and/or professional worlds they may offer access to other people with various skills or, often more important, access to a number of contacts they have acquired, who can help the company in various ways. In these two capacities, a knowledge angel is offering much of what venture capitalists offer bigger firms. Third, he may offer keen personal involvement in the development of the company, often out of sheer interest.

Knowledge angels often come from companies, big and small, where they have been directors or senior managers. For example, Roger Ashby spent most of his business life working for Shell – mainly outside the UK. Or they may be in academia, especially business schools.

Because they have relatively little capital and may therefore need income, knowledge angels often become non-executive directors in the companies they help, and may invest modestly in them. They may, like Roger Ashby and me, already have pensions, perhaps having retired early from being full-time business executives or academics. Sometimes, knowledge angels become consultants to companies they help. But any payments angels receive are rarely substantial, at least while the start-ups they help remain small.

4. My Background

How and when did I become involved with start-ups? None of my blood relations were entrepreneurs, but an uncle I much admired ran a small, thriving clothing company in Marlow-on-Thames in the south of England and I discussed its activities with him at length in my youth. That attracted me to entrepreneurs, but I did not see entrepreneurship as a career. Instead, I became a student at Birmingham University, where I obtained a bachelor of commerce degree, a now very-outdated predecessor of the MBA. Having enjoyed economic geography at school, the degree attracted me because choosing appropriate options enabled me to give it significant economics content. For my Master’s Degree I studied the pricing policies and practices of six small companies, including my uncle’s.

By that stage, I was keen to become a university teacher and in the UK of the 1940s it was not essential to obtain a PhD to do that. The biggest formative influence in my early career was G. C. (George) Allen, a distinguished applied economist and the head of economics at UCL. By chance, George Allen was an external examiner at Birmingham University, saw my work and offered me a

lectureship in his department. I began my career there in 1947, teaching economic theory, but my research concentrated on two applied issues suggested by George – industrial location and the economics of man-made fibres.

In 1948, the publisher Longmans asked George Allen to recommend an author for an economic theory textbook. George suggested Alfred Stonier, a colleague at UCL, who agreed – but only if I became joint author. For about 20 years, the resulting book – *A Textbook of Economic Theory* – sold well around the world.

In 1957 I was appointed Professor of Applied Economics at Sheffield University, a position which meant directing one of the earliest UK university middle-management courses, totalling twelve weeks over two years. In designing and chairing the programme I almost certainly learned more about business than anyone else who attended. This was essential because, having deliberately concentrated on economics in my degree, I had undergone little management training. My understanding of management teaching was furthered when I spent a sabbatical year at Duke University, North Carolina. Sheffield University saw the opportunity to expose me to US management education and paid for me to visit most major US business schools for discussions with faculty.

I enjoyed management education and wanted to continue in that field, but Sheffield was a small university which lacked colleagues of the calibre I had enjoyed in London. So I was delighted, in 1963, to be invited to become Professor of Applied Economics in Manchester University, with its outstanding faculty of Economics and Social Science.

I thus became the first member of a group of lively, innovative academics who designed and established Manchester Business School (MBS). I did not plan my move to Manchester, but nor did anyone in Manchester plan to establish MBS. I was appointed in May 1963 to introduce management courses to Manchester University which was seen as a long project. A senior Manchester professor told me: “If we play our cards right, in twenty years we shall have a major business school”.

In the event, within six months we were promised the funds needed to establish MBS which opened, as did London Business School, in 1965. MBS began from scratch with a substantial budget, half from the government and half from business, totalling £3 million pounds over five years, plus what we raised from course fees. This was to fund current expenditure only, with more for capital spending.

To establish MBS was a rare opportunity. Few academics set up a large, totally new institution in a rapidly-growing field and within a renowned university. Because MBS had no previous history or culture, we could be totally innovative in the programmes we ran, the methods we used and the way we organised ourselves. This freedom was strengthened because we had direct access to the national funding body – the University Grants Committee. We could submit

proposals and requests directly to them without vetting by, or argument with, the university – as there often was in other business schools.

The key intellectual lesson for me was that management education was not simply about economics, but was inter-disciplinary, and I learned enormously from eminent colleagues, Tom Lupton (sociologist), John Morris (psychologist) and Ken Simmonds (marketing) and from my greatest hero – Professor W.M. (Bill) McKenzie head of political science in the Economics Faculty.

I was one of a core group in the school who became academic entrepreneurs par excellence, and developed my entrepreneurial instincts. I saw that an academic establishing a business school was little different from an entrepreneur establishing a start-up. I had no direct experience of business but was fortunate again, in 1967, when Jeremy Bray, a labour government minister, asked me to become a non-executive director of the nationalised North-West Gas Board. He offered me the (unannounced) role of pushing the organisation into greater use of the latest management techniques and I gladly agreed. The organisation employed over 10,000 people in north-west England, and was switching to supplying North Sea natural gas – instead of gas from coal and coke. I was able to understand a large organisation, while overseeing that switch to North Sea gas provided a unique learning opportunity.

Nevertheless, this was a nationalised organisation dominated by engineers, not a business. Again by good fortune, in 1969 I attended a conference where a very senior civil servant suggested that companies should appoint academics as directors, to enable them to learn how private businesses operated. John Gardiner, more recently chairman of the supermarket company Tesco, was then the young and lively chief executive of the Laird Group – an engineering conglomerate. At the conference, he accepted the advice and invited me to become a non-executive director of Laird for three years.

Cumulatively, these appointments gave me skills, experience, and contacts invaluable to a director of a start-up, though I did not imagine I should become one.

Meanwhile, Michael Spicer had approached me. Today, Sir Michael Spicer is a senior Conservative Member of Parliament. In 1964, the Conservative Party research department employed him to persuade senior academics to assist leading members of the shadow cabinet by writing speeches for them and discussing how academic thinking could give different perspectives on current issues. That is how I became a part-time personal adviser to Margaret Thatcher an MP interested in Treasury matters and I continued to work closely with her after the 1979 election. I also worked with Sir Keith Joseph, another shadow minister interested in economic and business problems.

Partly because of these contacts I took the only position I should perhaps have refused. In 1970, the Conservative Government came to power and, by 1973, price inflation was so severe that it established a Price Commission to control UK prices. The Chairman, Sir Arthur Cockfield (now Lord Cockfield), asked me to

become a member. I explained that I was philosophically unsympathetic to such interference with markets, but he argued that the Commission needed a sceptic like me to keep a wary eye on its activities and I accepted the position. Working so closely with government intrigued me and I felt I should help a government where Margaret Thatcher was a minister.

I was a member of the Commission from 1973 to 1978 but now believe I would have been better occupied as an independent academic. Instead, I became an expert on a highly-complex code for controlling prices – expertise that became useless overnight when price control ended.

In parallel, I joined my first small business. In 1970, Michael Spicer decided to set up Economic Models – an early economic forecasting company. He had studied the textbook Stonier and Hague at Cambridge and was keen to use my economic expertise. Indeed, he now says that he sought me out in the context of Margaret Thatcher not least because he wanted to meet Hague the textbook writer. I became a director of Economic Models and remained until 1980, as did Professor James Ball, later head of London Business School. We left when Michael sold the business to obtain sufficient funds to concentrate on full-time politics.

In 1981, I moved from MBS to Templeton College, then the only purely management college in Oxford University. I established and ran the college's Strategic Leadership Programme for very senior executives and administrators and have been associated with the College ever since.

As I arrived, John Walker, another economic forecaster, persuaded Templeton College to give him a base to set up Oxford Economic Forecasting (OEF). As the College's economics fellow, I agreed to help John and became a director of OEF, together with three other Oxford economists. Twenty years later, OEF is a successful economic forecasting company, with activities in Europe, the USA and Japan.

Two years later, Sir Keith Joseph, then Secretary of State for Education, approached me to become Chairman of the Economic and Social Research Council, a government body then allocating about £20 million annually to research across the social sciences. This job was always seen as rather a poisoned chalice but Sir Keith was a friend and I took on the role from 1983 to 1987. I learned more about the way Whitehall ran, and established many more contacts.

Alongside this I left OEF in 1984 to become Chairman of Metapraxis Ltd, a company set up by a young man, Robert Bittlestone. In 1984 Metapraxis sold software that produced advanced computer graphics for businesses, though what was leading-edge then was rather like today's Harvard Graphics.

I remained chairman of Metapraxis until 1990, when I became a director of the CRT Group plc, whose story, with that of Karl Chapman, is told in Section 6. I remained there – including a year as Chairman – until 1997. By then, I had met Rowan Douglas, and agreed to help him set up WIRE Ltd, whose story is told in Section 5.

Since then I have written a series of further case studies, mainly of spin-offs and start-up from Oxford university. All are freely available on www.science-enterprise.ox.ac.uk.

5. My Attributes

As this narrative shows, I applied for only one post in my career – at Sheffield. The others were all offered unexpectedly, though all turned out to be jobs I thoroughly enjoyed. The same chance process brought me into the five start-ups. I had no idea even that any of them were being planned before they approached me. This may sound more like a random walk than a career, but I rarely agonised over what to do next. I was just surprised that I was being offered a succession of interesting roles. From them, I acquired a set of very appropriate skills and contacts for working in start-ups.

Downing Street, the Price Commission and the ESRC experiences were useful but I was largely observing, not influencing, events, though I did acquire very useful contacts. But the more I could help to bring about *change*, the more motivated I was, which is why establishing MBS provided my most exhilarating experience. Next comes the Strategic Leadership Programme at Templeton College, where the participants were lively people moving into very senior roles and keen to use our help in working out how deal with their current leadership problems – issues which their maturity and seniority enabled them to articulate, explore and, indeed, tackle.

As for the five start-ups, since I was moving towards retirement, I was content with non-executive positions and gladly accepted the role of adviser, coach and helper.

In summary, I believe what I offered to the start-ups was:

- Enthusiastic support for entrepreneurs, especially where their plans were close to, even derived from, my own ideas;
- Expertise in applied and managerial economics, finance and systems thinking;
- Less-specialised understanding and experience of other aspects of businesses, not least the role of directors;
- Access to a wide range of senior contacts in business schools, business, government and the civil service. These contacts were valued highly, and in one case two contacts were crucial to the survival of a company.

Against this background, I outline the stories of two start-ups, WIRE and CRT.

6. Rowan Douglas

About 1991, my assistant told me Rowan Douglas was coming for lunch. “Who is he?” I enquired. I was surprised to hear that he was an MA student from Bristol, and asked why I would want to spend a whole lunchtime with him. My assistant, said I would find it interesting, and I have.

When we met, Rowan told me he was 23 and then astonished me by saying: “The reason I have come to see you is that you are the only person in the world who agrees with me.” I said, “Splendid, but what do we agree about?” By chance, Rowan had come across one of my books where I pointed out that an unknown amount of jargon-ridden, but commercially valuable knowledge was hidden away in theses in university libraries. Rowan seized on my assertion that if universities and established publishers would not improve the situation, then “the entrepreneurs of the knowledge industries must.”³

He told me of his handling of his own thesis which was about business developments in Central Europe after 1989 and then impressed me. He had financed the whole of his period as a masters’ degree student by selling a rewritten version of part of the thesis to banks and businesses round the world.

The upshot was that I agreed to help Rowan set up a business to identify, repackage and sell material from university theses. Several friends and colleagues of Rowan did the same. Once he obtained his degree, Rowan took a job with a Lloyds insurance syndicate in London to keep him financially afloat while he planned his business. It had the rather pretentious title – Worldwide Intellectual Resources Exchange - WIRE in short. I and his other supporters simultaneously helped Rowan to raise £30,000 to set it up. And I persuaded the Science Policy Research Unit at the University of Sussex to let him locate WIRE on the campus near Brighton. By then Rowan was 25.

After about two months I wondered how things were going, so I rang Rowan. “It won’t work,” he said. “What won’t?” I asked. It turned out, not surprisingly, that tracking down commercially-useful information in university theses on a national scale, rewriting it so that businessmen – rather than academic examiners – could understand it and then marketing it to companies which were willing to pay for it would simply be too time-consuming, too expensive and therefore unprofitable. “But don’t worry”, he said, “I’ve found something else.”

“Something else” was running an employment exchange for scientists and engineers on the Internet. “But that must be even less likely to succeed”, I insisted. “Not at all”, said Rowan, “other people are doing it already.”

3. *Beyond Universities*, p.67.

So I left him to work on this but, after about two weeks, Rowan telephoned me. “That won’t work either,” he said. “But don’t worry, I’ve got something else.” “Something else” this time was to set WIRE up as a “knowledge broker”. Like other brokers, WIRE would acquire something (in this case knowledge) from those who had it, and make it available to those who needed it. While planning WIRE, and working for the Lloyds insurance syndicate, Rowan had become convinced that Lloyds brokers, offering insurance against big risks – hurricanes, floods and the rest – needed good information about what was going on in the wider world. But they lacked the time and expertise needed to find it.

So Rowan persuaded me to chair seminars for Lloyds brokers, where he offered to provide such information on an ad hoc basis. That “didn’t work” either, but it provided the breakthrough and ended what I have come to call Rowan’s period of “wriggling about”.

A big insurance broking company became interested in what Rowan was doing and provided enough money to allow WIRE to develop a large-scale system. WIRE tweaked commercially-available search engines, and used them to trawl the Internet. This produced a library of information potentially valuable to insurance brokers, which was indexed imaginatively and sold, much of it to the company which had supported him. Indeed, WIRE then went into partnership with Lloyds of London itself to increase sales and the venture was a commercial success. We had not yet heard the word, but Rowan had set up an early dot.com.

Rowan’s period with the Lloyds syndicate also led him to worry about the fairness of insurance arrangements for people with multiple injuries, especially loss of limbs. Agreeing on compensation can take years, while the family of the victim struggles on without the finance it needs, yet bears the strains and costs of caring for the victim.

Rowan believed it must be possible to persuade insurance companies, lawyers and the courts to provide and use a common database. This would show quickly what compensation had recently been agreed for people with combinations of injuries and personal circumstances similar to those of new victims and so provide the basis for early, negotiated settlements. Indeed, Rowan approached Lord Wolfe, who is now Chief Justice for England, but whose job then was to seek ways of increasing the speed with which cases went through the British courts. He persuaded Lord Wolfe to investigate and later to support his proposals and to arrange for him to address about a dozen law lords, which he did with great success. The Lord Chancellor’s department also agreed to provide official support.

This bought WIRE face to face with what is a critical issue for small companies which trade in knowledge. Rowan is convinced that, in the competitive world of the Internet, good technology, marketing and management are not enough. He believes a company like WIRE must *own* as much as possible of the information it disseminates, as an important way of establishing a niche market and protecting it from competition. Rowan therefore persuaded several

insurance companies to allow WIRE to *buy* their raw data about compensation awards and to use WIRE staff to put the data into a common form.

Inevitably doing this on a large enough scale would be very expensive, and WIRE lacked the necessary capital. It now had a sizeable bank loan, but had added very little to the initial £30,000 of equity we had raised. So I agreed to become Chairman of WIRE to help it to raise the funds needed to expand. We wanted £2 million.

After much lengthy negotiation the only way ahead we could see was to sell WIRE and, in October 2000, we sold it to Willis, the world's third biggest insurance broker. WIRE is now a Willis subsidiary and Willis has given Rowan and two key colleagues good contracts to enable them to help Willis to move into the Internet era. It is a terrific opportunity for Rowan, who is now an Executive Director of Willis. By the way, he is now 35.

For the record, the main shareholders of WIRE – who had received no dividends from WIRE at any stage – received 40% more for their shares than they had paid. But Rowan and his right-hand man had much more favourable deals and received amounts into five figures. Other shareholders intended this differential from the beginning and, since the pair had worked so hard for the company, thought it entirely fair.

7. Karl Chapman

One morning early in 1990, I was at my desk in Metapraxix and my telephone rang. It was someone I did not know, but who was very direct: “I want to buy your company”, he said. “That sounds splendid”, I replied, “but I can't sell it to you”. As Chairman of Metapraxix, at that stage not very profitable, I thought that selling it was a good idea because it would almost certainly bring more money for shareholders than they would receive quickly in any other way. But the Managing Director owned more than half the shares. I was certain he would not sell them, and he did not.

So there was no take-over but I had met Karl Chapman, a remarkable entrepreneur and the architect of a company called CRT.

The inspiration behind CRT was twofold. First, information and communications technology were about to enable countries across the world to deliver education and training – what Karl called learning for life – in new ways. Karl believed that the place of learning and methods of learning would change. Learning really would become lifelong and not largely confined to under-twenty fives. I had been writing about these developments before I encountered Karl.⁴ We shared the same beliefs and, since I was about to leave Metapraxix, I joined the board of CRT to help to drive this development on.

4. *Beyond Universities* passim.

The second inspiration was Karl's alone. In his previous job he had been seeking investment opportunities for a London merchant bank and had discovered that private sector training was very fragmented in the UK. He set up CRT to grow in part through acquisitions, believing that the company could soon become big enough to be an industry leader.

So CRT had a clear vision which, in 1990, Karl said was to become "the McDonald's of learning". CRT did not achieve that but, under him, it did become UK market leader in its field, acquiring and developing two established training companies and becoming strong in IT recruitment as well. One acquisition was Link, which provided training, mainly in retail distribution, from over 100 centres spread across Britain. The other, Pitman, provided training in IT and office administration and had a world wide reputation. None of this was high-level training, but it was important to the UK.

CRT developed fast. From nothing in 1989, its turnover grew to £40 million by 1992 largely through acquiring Link. Partly through bringing in Pitman, turnover rose to £47 million by 1993, but then levelled off, partly because we acquired a consultancy company which was a bad buy. It was quickly sold, growth resumed, and by 1996 turnover had doubled to £103 million in only two years, largely through organic growth. Operating profit struggled more, but rose to £8 million.

Then there was dramatic change, which taught us an important lesson. Karl was keen on even faster growth, talked of an annual turnover of £1 billion and sought funds to achieve it. In 1996, this led to a deal with a US company – Education Technology – which doubled the capitalisation of CRT by providing £109 million of cash for new CRT shares. The offer was accepted. It looked like a real coup, with the American company renaming itself Knowledge Universe, but turned out otherwise. The aim was to make CRT a worldwide company, but it is now a rather less-dynamic British one. Renamed Spring, its share price is around 110p today and has been below 50p, compared with a peak in 1998 of 400p.

It was the end of an era. The Americans insisted on strong representation, replacing me and other UK directors. And, because Spring did not develop as Karl Chapman had hoped, he left in 2000.

But that was not the end of Karl Chapman, entrepreneur. After only a fortnight's family holiday, Karl began work on a new venture. He had already decided that in future he would work only with people he knew, liked, rated and trusted. Those who have joined him – at present about a dozen – are relatively young and almost all have been attracted from CRT/Spring. Karl has given them jobs that have developed them, has provided them with links to specialists who can provide and vet information for them, and they are performing splendidly.

Stating the criteria for the new business took only one page. To establish itself in the right market at the right time the new company must follow a big trend, which Karl decided was the use of IT to provide useful commercial information.

To simplify marketing, Karl decided that the best approach would be to provide a service that companies could own-brand. And, learning lessons from CRT, Karl also decided that both to keep down costs and to make control of the whole business simple there must be only one central site – and not the 100-plus of CRT. Costs have indeed been carefully controlled, initially because much of the work was done from employees' homes, with modest premises rented only from July 2003.

So Karl has established a private limited company, AdviserPlus Business Solutions Ltd (ABPS), which provides professional advice for businesses, especially on employment law and practice, company law, marketing, finance and taxation. A basic nationwide (but centralised) distribution system was established by acquiring a company named Bizwise, with its own website. Bizwise was presenting, in a rudimentary form, the kind of information that Karl wanted to provide, and the quantity and quality of information available has been increased and the site converted from a free-to air to a subscription service.

There was then a clever new twist. To minimise the complexity, scale, and therefore the cost, of APBS, the national Bizwise website is operating at only a basic level. The main effort of Karl and his colleagues is going into developing the business by managing an increasing number of own-brand websites which currently provide about 20 big organisations with the material required to offer their branded service, with its tailor-made range of information, to their own customers and/or staff. This is done through the central APBS website, but in a way that gives each client website a carefully designed and distinctive appearance, including the organisation's own logo. That local website and the information on it is both provided and continuously managed by AdviserPlus staff, with specialist help. To provide more information than is available on the website, a set of specialised telephone help lines is manned by senior professionals.

The final element in Karl's idea is that, again to keep the company easily manageable, APBS will provide a branded site only to a single major organisation in each business field, the boundary of each such field being decided jointly by APBS and the organisation in question.

The ultimate number of branded websites to be made available is therefore limited, but could easily be as many as 50 or 60, giving a substantial, but manageable, business. The future of AdviserPlus looks rosy. Again learning from CRT, Karl this time determined his exit strategy early, but he naturally keeps that strategy to himself.

8. My Entrepreneurs

What have I learned from my close association with start-ups? First, there is a today a new kind of entrepreneur, with three characteristics. Not unusually, most begin rather young. Rowan set up WIRE when he was 26. Karl became Chief Executive of CRT at 29. Again not unusually, they are usually “born” entrepreneurs with an overriding desire to start a business. What is different is that more of today’s entrepreneurs are graduates. Rowan has two geography degrees, Karl a law degree and the CEOs of the other three start-ups have economics degrees. Indeed, Karl explains that he was President of the Students Union, decided that he was effectively running a business that he enjoyed and that he wanted a business career. Of course, there are still non-graduate entrepreneurs but, since hi-tech companies will be important for future economic development, more entrepreneurs will be graduates than in earlier, lower-tech days.

A fundamental point underlies this. The period from, say, 1955 to 1985 was the “automobile age”, typified by large, highly-capitalised companies engaged in fields like producing steel and automobiles themselves, oil refining, gasoline distribution, etc. Very few young people could find the finance to establish their own businesses in these growth sectors, and so found employment in large companies – the Fords and Shells. In the “ITC age” as we know, less capital is needed to start a business and young graduates have far more choice.

The second lesson is that an entrepreneur’s original business idea rarely survives unchanged. Sometimes, as with Rowan, the business is set up before it is clear that the initial plan will work and this is not necessarily a criticism. The search for a viable way ahead may take time; there may well be a few false starts; and the best way of having enough finance may be to set up the business very quickly. Rowan’s experience led me to coin the phrase: “Leadership by Wriggling About”. Obviously, no business should be blasé about changing early plans, but there is equally need for flexibility. Things rarely work out in quite the way the founder of a business expects, so there must be sufficient finance early on to allow the firm to change course – even quite dramatically – during its early stages.

For a time, I believed that new high-tech businesses did not have to “wriggle”, because many were planned to exploit scientific research whose basic nature did not need to be changed, or could not be. Having observed such companies for much longer, I realise that there is often wriggling in high-technology start-ups too, for example those exploiting research in biotechnology.

There is now an interesting development. With new capital scarcer in the 2000s than before the dot.com bubble, many UK start-ups have abandoned a common practice of “selling” the business plan to potential investors in order to acquire very substantial funds at an early stage. Instead, young companies are generating their own funds internally and sooner, especially by designing and

marketing saleable early-stage products. Indeed, so many UK companies are becoming successful at working in this way that I cannot help wondering whether in the past far more new businesses should have moved early into this mode of operation, which I hope will persist. It is certainly less worrying than the quite common practice of a company taking on quite unrelated consulting work to remain afloat in its early years, because the more recent practice plays an integral part in developing the business.

I now realise that Karl Chapman also had a “wriggling” phase. For example, CRT board meetings were held once a month and at one stage, for several meetings running, Karl had to explain the group’s current strategy to the board, because it had changed since the previous meeting. Since Karl set up AdviserPlus Business Solutions, I have been impressed by the way he has again adapted his new vision for the company by learning from its developing experience.

The third lesson follows. The archetypal entrepreneur has his own vision of what his new business should be and wants to establish it himself. Within limits, he does not care what it does, but it must be *his* business.

The fourth lesson is this. From a very early stage most entrepreneurs bring in a close associate who is then crucial to their early success, and this happened in all five of my start-ups. Often he (or she) is a friend from school or university, and is reliable, stable and solid – a first-rate project manager, a canny accountant or an IT wizard. This alter ego both adds stability to the fledgling business and provides personal characteristics and expertise that help it to grow. The entrepreneur acquires both a stabilising influence and a partner for continuing dialogue and debate.

Fifth, entrepreneurs are great learners. If not, they will fail. Karl and Rowan both recognised the need to learn quickly, but it is not enough for successful entrepreneurs to be good learners simply through observing their own businesses. They must observe the outside world keenly, read widely, constantly ask questions and continually ponder what they have seen, or been told.

A fascinating example comes from another entrepreneur, when he spoke to my courses. Each time, he soon turned the situation round, and began questioning the audience, who gave him free consultancy advice – and enjoyed it! Good entrepreneurs are remarkable learners.

My final lesson is more commercial. A business can have problems *either* if its growth is too slow *or* if it is too fast. WIRE grew too slowly to generate its own funds. CRT grew so fast that it had difficulty in keeping effective control over a geographically diverse business which constantly threatened to outgrow the capacity of an able but small, central management team to keep it under control. Perhaps, after 1997, CRT had too much capital. With £100 million in cash from Education Technology, the company found it difficult to organise acquisitions and growth quickly and effectively enough. At the other extreme, Rowan’s lack of capital forced him to refinance WIRE before it was secure.

This gives us today's typical entrepreneurial characteristics. They are: youth, drive, university education, insight/vision, charisma, "wriggling" ability, a determination to create a business of one's own and a strong associate/partner.

9. What Do Knowledge Angels Do?

What, then, do entrepreneurs want from knowledge angels? First, I have learned what they do NOT want. There is no point whatever in pushing an entrepreneur to think about particular issues, even if they are important for his or her business, until he or she is ready. You will simply be ignored, your telephone call will not be returned. You can contend fiercely that this is bad management, but the entrepreneur will not listen. So you may as well not bother to argue.

A big lesson for all "angels" is therefore this. Be patient. Then, when entrepreneurs decide that they do need your help, they will call you. and when they do, they usually want one or both of two things.

First, they may want you to apply your specialist expertise and experience to a pressing current issue. But your expertise and experience is limited. So, second, they may well want to be introduced to people among your network of contacts. Some can themselves offer different specialist expertise from your own. All of them can persuade others in *their* networks to do so. Or an entrepreneur may, like Rowan, want you to find a base for him, say in a university. Very probably he/she may want introductions to potential customers, to politicians, to civil servants or to senior businessmen who have their own their own links to potential customers or investors. You have to decide who, in your network, will be most helpful in each specific situation.

To succeed as a knowledge angel, you must therefore have a network of contacts. The more and the better those contacts, the more successful you will be.

The reason I am a knowledge angel is therefore that I have expertise, experience and contacts to offer to young entrepreneurs. Some people are kind enough to say that I therefore offer "wisdom", but what I really have is simply memory. I have lived through a lot in my lifetime. After you have accumulated experience almost every problem your board encounters will be a problem you have already met on a previous occasion and you can explain how it was solved then. More generally, in every slump, younger – even older – colleagues insist that this time it really is the end of business. I then explain that I this is the fifth or sixth time I have experienced a recession at first hand and that, every previous time, my business associates were equally pessimistic. Once I explain that each time the economy did recover most of the doubters – knowing that I am an economist – accept that it will recover this time.

My final point may be surprising. Being a knowledge angel is fun, just as being an entrepreneur is – or should be – fun. I recently complained mildly to a business angel because I had made little financial gain from investing in WIRE.

“But don’t you realise” he said, “You cannot complain. You have actually been *paid* to be entertained.”

10. Conclusions

This is an inevitably idiosyncratic view of a little recognised topic, being based on my own experience. That experience convinces me that knowledge angels make a valuable contribution to the development of start-ups and I should like to see academics both inside and outside the UK attempting more scientific studies of the phenomenon. I have drawn my own conclusions, but they are specific to me, and not necessarily general.

Beyond that, I should like to see broader studies of the network (or is it networks?) which support entrepreneurs – studies similar to the Segal, Quince, Wicksteed partnership’s work on Cambridge.⁵ I should like future studies to give particular attention to the human relationships involved and to show how knowledge angels relate to venture capitalists, business angels and others – as well as to entrepreneurs. This would certainly assist academics, but I believe it would also help policymakers, both regional and national.

5. Segal, Quince, Wicksteed, *The Cambridge Phenomenon Revisited*, Cambridge, 2000. ISBN 0-9510202-1-8.

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