



EMCC case studies

Change in the knowledge-intensive business services sector: Espion

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Company facts

History

Espion is an information technology (IT) security business located in Stillorgan in south Dublin in Ireland. The products and services it offers range from security system design to comprehensive forensic investigation and security training. The three founding directors established the company in 2001. During its first year of trading, Espion generated a turnover of approximately €500,000. Since then, the company has doubled its turnover annually and now employs 14 persons, all of whom operate from its Dublin base.

One of Espion's founder members and Managing Director, Colman Morrissey, was employed with a large IT company until the dotcom bubble burst in 2001. Following the termination of his employment contract, he teamed up with Jim Lehane, who was a personal friend, and Colm Murphy, a former colleague, to develop a business plan for Espion in July 2001. The company started trading in September of the same year.

Espion began as a distribution company selling new IT security technology to resellers who market these technologies and sell them on to a wide range of consumers. Although this aspect of the business continues to be a strong element of overall business operations, Espion has also developed consultancy and training services as well as forensic and research capabilities.

From the outset, Espion's three directors had a vision of branching into consultancy services. However, Mr Morrissey's previous employment contract restricted him from doing this immediately and progression towards consultancy thus had to be more gradual. Espion's direction towards consultancy came with the development of the Honeynet project.

Text Box 1: *Honeynet project*

The Honeynet project is a study that uses 'Honeypot' computers to measure and analyse the number of attacks or hacks that would violate a computer in Ireland. These computers are used as a trap for measuring the number of malicious attacks that a computer would get over a specified time period (although no specific lure is set up for such attacks).

A honeynet is a network consisting of several different computers with various operating systems and software running; however, this is where the similarities end. The following points indicate the main differences between a honeynet and other networks:

- the systems in a honeynet are various standard, unprotected operating systems and software with the latest known updates;
- it is a non-productive network and any traffic between the internet and a honeynet is therefore suspect by nature;
- all network traffic is logged and archived so it can be traced back after a system has been compromised;
- every target operating system (honeypot) is monitored by a host intrusion detection system in order to trace back the files which have been modified, added or removed by a hacker.
- the firewall between the honeynet and the internet is not intended to protect the honeynet from the internet but is supposed to protect the internet from a compromised system in the honeynet so that no other computers can be attacked.

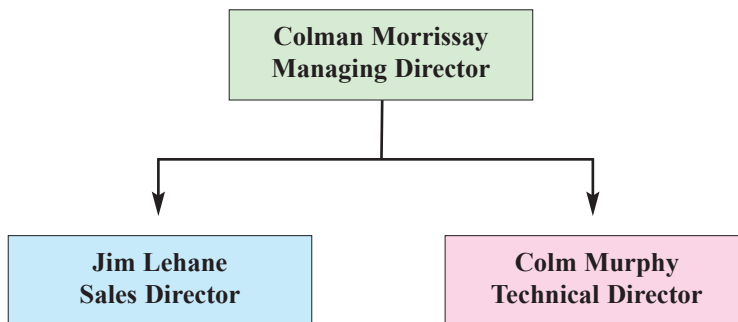
The project aims to provide an arena where the tactics and motives of those seeking to compromise internet security in Ireland can be analysed, while also presenting a training ground for those seeking to develop their skills on internet security. The Honeynet project ultimately offers a good marketing opportunity for Espion – it is a well-known project and highlights the skills of Espion staff, as well as being a unique tool that other Irish competitors lack.

Source: <http://www.honeynet.ie/main.htm>

Company structure

Espion maintains a relatively flat company structure with three main directors responsible for the operations of the business: Colman Morrissey being the Managing Director, Jim Lehane acting as Sales Director and Colm Murphy performing the tasks of Technical Director.

Figure 1: *Espion management structure*



Source: *Robert Huggins Associates*

Espion considers itself to be a small company within the IT security sector and thus appreciates the benefits and disadvantages that this brings. According to the company's directors, the main disadvantage is the extent to which the company has to rely on individual members of staff to achieve the company's objectives. Espion's directors are aware that if any staff member were to leave or become ill at short notice, they would witness a noticeable difference in effectiveness and productivity. Moreover, they would have no option but to hire relatively expensive independent contractors to fill the gap in the short term. As a smaller company, Espion directors also realise the company's relative vulnerability to cash flow fluctuations.

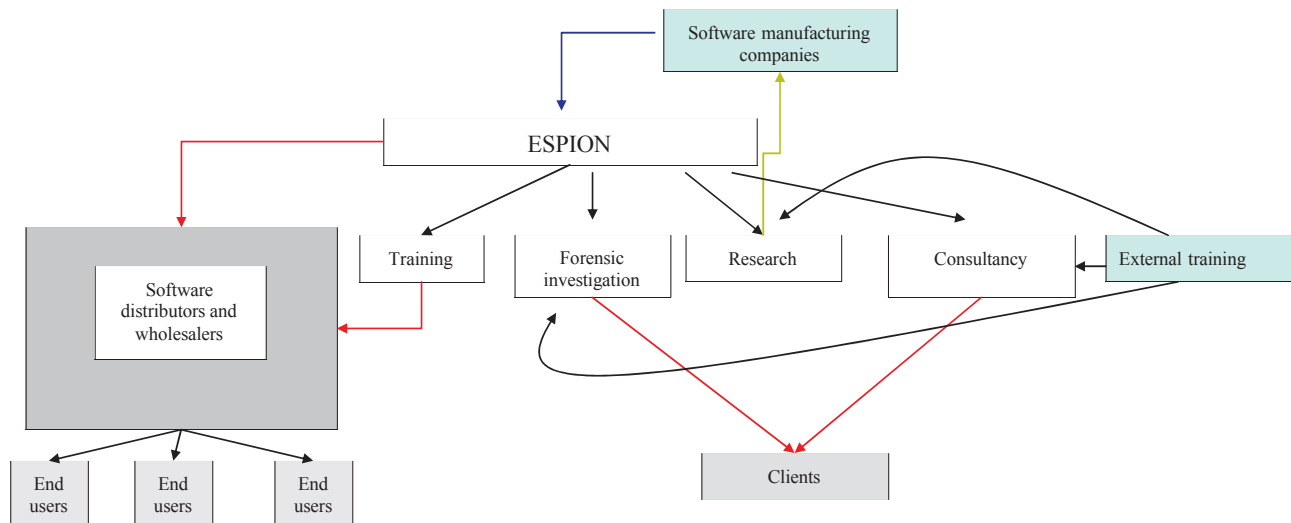
On the other hand, the advantage of being a small company enables Espion to make decisions and implement procedures rather quickly. In addition, it offers flexibility in relation to the direction that the company wishes to take. Espion does not have the strong corporate image or ethos that many large organisations have, which is a feature that most employees find attractive.

Business model

Figure 1 outlines Espion's basic business structure. The company sources its security software products from software manufacturing companies mainly located in the USA. Espion's research division aims to find the most appropriate IT security products which it then sells on to wholesalers and software distributors, who in turn sell them on to the software end users, including large organisations in the financial services, pharmaceutical and transport sectors. Espion regards its software distributors and wholesale contacts as partners, since the company works closely together with them in order to provide the necessary training and knowledge development required to sell the products on to the end users.

The training provided to its software distributors and wholesale partners is also available to other interested parties and the research undertaken influences the nature of the training provided. The company also invests significantly in external training for its own staff, and the outcomes of this training as well as the research conducted play an integral role in the forensic investigation and consultancy services provided to its clients.

Figure 2: Espion business model



Market dynamics and company services

Research

The nature of the research undertaken by Espion is characterised by the Honeynet project as outlined above, and focuses on gaining an understanding of the way in which personal computers are attacked via the internet. Espion research also tries to keep up to date on the range of new products and technology that is continually being developed to improve IT security.

Following the research undertaken as part of the Honeynet project, Espion attended and hosted a series of seminars on IT security that continue to be held annually. Participants at these seminars have in the past offered feedback to Espion and requested consultancy support as a result. In this way, the company accessed the consultancy market through its research activities. Espion does not consider that any aspect of its research activities contributes directly to the company turnover, and the directors are therefore mindful that investment in research must be tempered to financial circumstances. However, the spin-offs from the company's research activities are potentially very profitable, as growth in the company's consultancy service area proves.

Espion operates in a market that is rapidly evolving with new and advanced technology emerging on a regular basis. The company's research activities ensure that it remains at the leading edge of new technology knowledge; these activities also offer a platform upon which Espion can showcase its brand and increase its profile. Updating its knowledge base constitutes thus an essential element of the company's development programme while serving as a valuable marketing tool. Espion also publishes some of its research findings in publications such as Computer Scope to foster good public relations (PR) and to maintain its knowledge profile status.

Training

Espion also provides training services which have evolved systematically since the company was established in 2001. The company realised that large organisations, such as Ernst and Young, offered some specialist training but on an infrequent basis. Espion targets its training services towards the top 1,000 companies with content largely based around the honeynet project. The company also offers training programmes based on new products and software that they source from software manufacturing companies.

Forensic investigation work

Espion's forensic work revolves around interrogating company computer systems in search of potential evidence relating to computer misuse or electronic correspondence relating to internal company criminal investigations.

The forensic division of the business is relatively new and has been pursued in light of the fact that there are very few direct competitors in this market in Ireland. In this field of activity, customers are typically financial companies which are undergoing some level of investigation for computer misuse. The forensic market cannot easily be targeted as it involves investigations undertaken by law enforcement enquiry teams who have to direct clients towards Espion. The company thus largely relies on these teams to increase its market share in investigative computer work.

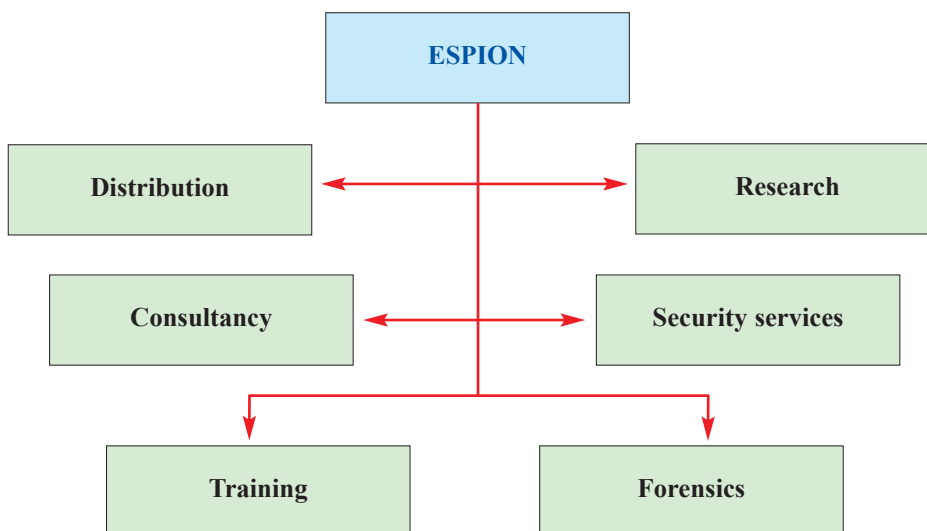
Consultancy services

Consultancy services provided by Espion include offering advice and guidance relating to IT security needs to individual clients as well as testing the robustness of current IT security systems. Individual companies who demand consultancy support from Espion will often commission Espion consultants to try to attack their IT system and report back on the extent to which the system could be penetrated. Espion will then offer advice on how to strengthen any potential areas of security weakness.

Product distribution

Espion constantly seeks out new IT security software products from software manufacturers which meet the ever-changing nature of the way in which IT systems are attacked. Once suitable products have been sourced, Espion will then purchase them and sell them on to software distributors and wholesalers (see business model, Figure 2).

Figure 3: *Espion products and services*



Source: Robert Huggins Associates, 2006

In recent years, Espion have operated a second office in Manchester, which is no longer staffed but remains in the name of the company. Espion directors claim that it was difficult to manage a branch of their company that was relatively remote in geographical terms from their Dublin base. They considered that in order to manage their Manchester branch effectively they needed to have regular face-to-face contact with staff employed at the branch. This created some practical and logistical barriers, which the directors considered insurmountable and the company therefore decided to scale down operations.

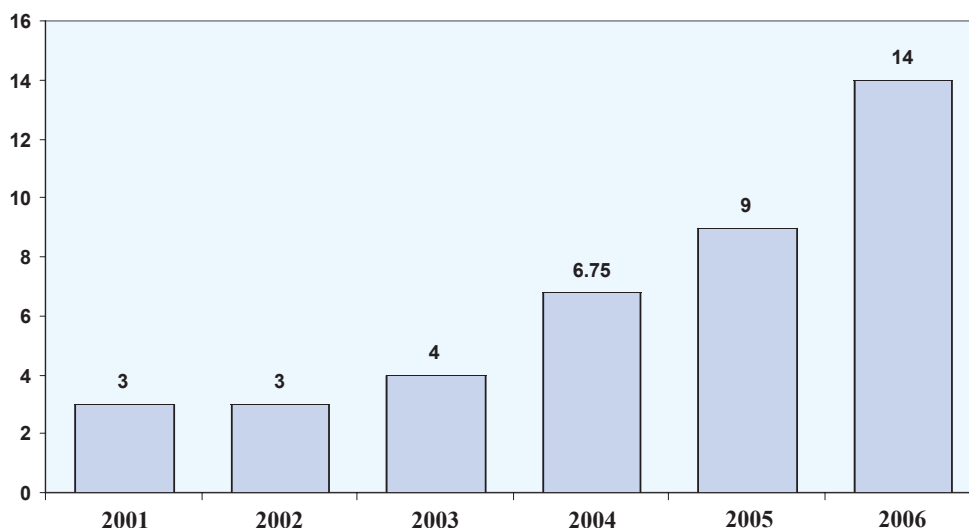
Human resources

Employment growth

From 2001 to 2003, the three founding directors made up the company's workforce. In 2003, they recruited a fourth member of staff, Colm Fagan, who brought technical expertise to the team. As he was the first member of staff taken on by Espion, further competencies that Mr Fagan offered such as trust, the ability to work on his own initiative and potential management skills, were of equal if not higher importance to the company.

Following Mr Fagan's appointment, the company also employed a number of administration staff along with several sales representatives. All of these appointments were made in rather quick succession. In 2004, Espion employed 6.75 full-time equivalent staff members, while this number continued to grow to nine full-time employees in 2005. At present, there are 14 members of staff including the three directors.

Figure 4: *Number of full-time employees, 2001–2006*



Source: *Espion, 2006*

To date, Espion shows a very good staff retention record as all of the first seven employees still work for the company. Only two members of staff had to be let go while no company employee has yet left to seek employment elsewhere.

The Dublin office appears to have a very calm informal atmosphere; it is clearly a busy office but it is distinctly free from stress factors or chaotic frenzy. Its very location, within a church previously occupied by monks, creates an ambience of inspiration and serenity as well as an immediate talking point to any visiting clients or associates. However, Espion does not consider that the choice of location and the resultant working environment are a result of any direct or intentional policy.

The company promotes a professional environment combined with a culture of socialising outside of working hours, which is as much a result of the nature of the people that work in Espion as any conscious effort on behalf of the directors. Nevertheless, such a working environment seems to be appealing to those who work for the company. The directors are conscious, however, that the dynamics of the workplace can change significantly in the event of new staff recruitments. Therefore, increasing the number of employees could change or even off-balance the current working environment. Espion has not elaborated any specific strategy to address this issue, and its directors accept that they will have to adapt to any such changes as and when they occur.

Recruitment and staff development

Staff development is part of Espion's formal development strategy plan. The company has a structured review process in place and performance-related pay incentives have also been introduced, both of which are aimed at improving productivity as well as retaining highly-skilled staff.

Staff retention is very important to Espion as they invest substantially in ongoing staff development training. In addition to the essential training identified by Espion directors, all employees are required to identify their own training needs as necessary, and the extent to which they undertake training programmes is one of the evaluation criteria of their regular performance review. All three company directors completed a personal development questionnaire to assess whether they were placed in the optimum roles for the benefit of the company and to test their management potential.

Staff profile

Espion does not buy in skills and qualifications but prefers instead to recruit individuals at a relatively junior level and to develop the skills they require by investing in training. In fact, all current employees are qualified to at least degree level; nonetheless, the company looks for 'softer' life skills at recruitment stage. Espion places great emphasis on the ability of individuals to have good customer services skills as well as to be able to talk to individuals in a coherent and professional manner. The company advertises posts when they become available, mainly via their own website; these job advertisements generate a lot of interest but Espion actually prefers to headhunt individuals where possible.

Espion usually seeks a degree-level qualification as a prerequisite of employment, largely as this serves to meet the criteria expected by Espion clients. However, the company considers this level of qualification to simply demonstrate an aptitude for learning as opposed to any particular skill set that can be applied in the workplace. Although a degree-level qualification is considered essential at recruitment stage, the discipline in which the degree has been gained is very much a secondary consideration. Even IT degrees are not valued higher than other degrees, as Espion considers that IT graduates often lack the practical skills required in the workplace.

The ideal Espion candidate is a university graduate with three years work experience during which they would have developed a number of the life skills that the company values. In the opinion of Espion, they must have the ability to master the required tasks efficiently and quickly. In the past, they have interviewed new graduates but considered that their salary expectations were too high. It seems as if not all new graduates have realised that the dot.com boom is over, and thus they expect to have a potential earning capacity which is often over inflated. On the other hand, Espion directors recognise that university graduates who have participated in courses involving some degree of work experience have a considerable advantage at the job interview compared to those who have no work experience.

At times, Espion seeks to recruit individuals with specific technical skills, particularly for their sales team. Posts that require these skills can be more difficult to fill. However, even in these positions, skills such as communication and problem solving are valued most highly.

Training

In the sector in which Espion operates, knowledge has a relatively short 'shelf life', and constant knowledge updating and training is essential to maintain a competitive market advantage. Even sales personnel, who operate in the product distribution, must have a detailed understanding of the products as well as the technology they are associated with. New products regularly appear on the market, and skills and knowledge developed during training can therefore have a shelf life of less than a year.

The training required is often so specific in nature that it is not available in Ireland; therefore, Espion has to send their employees to London or Nice to attend training courses. Such training, albeit necessary, is clearly expensive. However,

some staff members view the opportunity to travel abroad to attend training courses as a 'bonus' and contribute further to ensuring that staff retention rates remain steady.

To ensure value for money for training courses attended overseas, those participating in these courses are charged with the responsibility of passing on the information gained from the course to other members of the Espion team upon their return to work.

Espion has attempted to reduce training costs by bringing the training courses to their place of work. In the past, the company's directors have found that the cost of bringing specialised training staff to Dublin is less expensive than sending a number of their staff abroad to attend training courses. The office is equipped with an IT training room and hosting such training sessions gives the opportunity to train Espion staff in-house, as well as to provide similar training opportunities to company clients and other interested parties. Espion offers the training courses for free to existing customers, although a fee is charged to other interested parties. This strengthens relationships with the existing customer base and raises awareness of Espion products and services. It also helps to recover some of the costs involved in hosting such training events.

Training, as well as ensuring that the company employees hold specific qualifications and certification, can be part of Espion's contractual agreement with their clients. The company is thus often contractually obliged to invest in training, and losing a qualified member of staff can prove expensive for the company if they need to be replaced quickly.

Recruiting locally

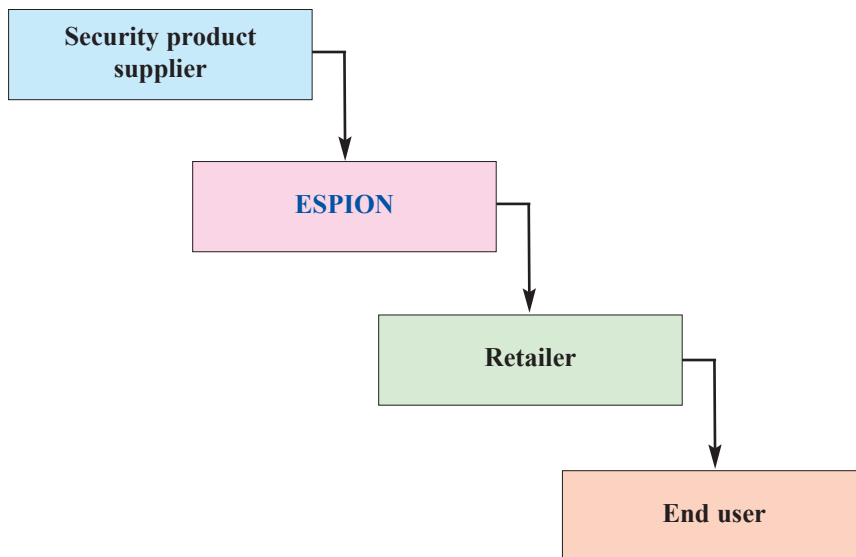
Most Espion staff members were recruited from within a three kilometre radius of the main office, which was not a deliberate company policy. It would appear that this has occurred mainly because workers are attracted to the fact that they do not have to face long commuting journeys to and from work each day. Commuting is becoming a major concern for many workers in Dublin as traffic congestion levels continue to increase. Espion has adopted relatively flexible working conditions which allow for employees to work from home where appropriate and thus reduce time spent commuting.

Spiralling house prices and increasing accommodation costs have also contributed to a lower mobility of workers, according to Espion's directors. Workers are less willing to move due to these high costs and the ability to gain access to employment within short travelling distances from home is very attractive. The fear for Espion is that some of their employees may find their local accommodation too expensive and consequently may seek accommodation and therefore employment elsewhere. This factor above others may pose the greatest threat to Espion staff retention rates in the future.

Supplier and customer relationships

As outlined in the business model, Espion operates its product distribution activities by purchasing IT security software directly from manufacturers, then selling it to distribution and wholesale partners who in turn sell the products on to end users. The distribution and wholesale partners include companies such as BT as well as a range of other network specialists.

Espion maintains a close working relationship with its distribution and wholesale partners to ensure that they are fully equipped with the knowledge and expertise required to sell the software products to end users. On the other hand, the company's relationship with the software manufacturer suppliers is relatively hands off. The contact between Espion and the mostly overseas-based manufacturers is predominantly by email and telephone, contacts that are less direct compared with the face-to-face interaction between Espion and its distribution and wholesale partners. Overall, Espion has relatively little contact with software product end users.

Figure 5: *Espion's distribution model*

Source: *Espion*, 2006

New products regularly appear on the market while others become redundant just as quickly. Employees at Espion must therefore raise partner awareness of these developments and educate them as to how new, often technically complex, products work and the advantages they offer to end users. This clearly requires close partnership arrangements and regular contact between the company and its partners, as well as a high degree of research and knowledge development among Espion staff. As these processes require considerable investments in time, it is also important to maintain good long-term relationships with partner organisations.

At any given time, Espion deals with approximately 80 distribution and wholesale companies and gains approximately 80% of its resell turnover from about 15 of those companies. There is some flexibility as to which companies these top 15 partners are, since this depends on the products being driven forward; the overall breakdown however remains relatively constant. The pool of 80 partners has remained fairly stable over time, although this number can vary as it is influenced largely by the type of product sold.

If the end users of products are particularly large organisations, there may be opportunities for Espion to supply products to them directly. However, Espion must be careful not to compete with its distribution and wholesale partners as this could damage good customer relationships, on which the company is very dependent. These relationships can also become strained as distribution and wholesale partners are constantly presented with new products. It is difficult to continually suggest to business partners that they return to their end user customers with new and improved products, when the end users have just recently invested large amounts in similar although less advanced and sophisticated products.

The interaction between Espion and its partners is obviously key to maintaining and building good business relationships. Offering free access to training courses helps in this respect as does ensuring that all Espion employees have good communication skills.

Growth strategy

Espion's growth aspirations involve continuing to double their turnover annually until 2010. The company intends to achieve this mainly by expanding the consultancy services but it may also consider the acquisition of another existing company.

Profit and efficiency

The company's growth strategy will be driven by performance. The plan is to first create a market base for company growth, by targeting sales and expanding services around this. The first stage of implementing this growth strategy will be to recruit salespersons who will push forward sales of consultancy services. Subsequently, Espion will have to recruit consultants depending on the success of the sales team. The company realises that if the sales approach is successful, it will need to ensure a seamless transition from consultancy sales to service delivery, mainly due to the time lag involved in recruiting highly competent consultants. Therefore, Espion will initially rely on contractors and partner organisations to take up the capacity gap, which will also reduce the risk of having freshly recruited employees servicing a new and less well-proven area of the market.

The company's resell operations also offer opportunities for business expansion with a minimum requirement to increase the company's workforce. Some opportunities exist for Espion partners to expand their end-user client base which would lead to an increase in overall sales; both Espion and the partner organisations would benefit from greater sales through retaining profit margins. This means that if the retailers can augment their sales of IT security products and Espion retains the same margins on its sales with the retailers, then Espion can boost the company's turnover with virtually no need to increase its workforce.

Although there is scope to expand the staff base at the Dublin office, the directors appreciate that there is a limit to the degree they can do this. Expansion at their Stillorgan base would offer obvious strengths: the management structure could remain unchanged and financial requirements would also be less if the current location and management structure were to remain the focus of development. However, such an expansion route could alter the dynamics of the current working environment. While the same management structure may be in place, the managers would be likely to experience changes in the way they operate and would probably be less available to deal directly with the 'hands-on' elements of the business. The staff may also experience changes in their working practices, particularly in relation to a greater division of labour and the need to develop niche skills and expertise.

Increasing partnerships

To accommodate capacity issues, Espion is seeking to increase the extent to which it forges partnerships and collaborative working practices with other companies. Offshoring some services is an aspect of Espion's growth strategy that has been considered; the company realises that several larger companies operating in the same broad sector do offshore some activities in order to take advantage of lower labour costs in other countries. Sales would be the most obvious area of the business to offshore. However, Espion considers that because they offer services based around IT security and forensic research, the development of trust and close working relationships with their clients and customers is essential. In order to ensure such close and trust-based business relationships, Espion sales personnel and consultants invest a considerable amount of time interacting on a one-to-one, mostly face-to-face, basis with their customers. The company also spends a considerable amount of time with clients on-site, in particular with regard to the training services offered. Therefore, geographical proximity to customers represents an essential element of Espion's operations.

In the recent past, some company employees have never met their customers in person and all contact has been either by telephone or email. Such client relationships, however, remain rare and unless this changes significantly offshoring services will not constitute a major part of Espion's immediate growth strategy.

Geographic growth

In order to expand its geographic reach, Espion enters partnerships and associations with similar organisations in other countries. This is an area of development that the company continues to work on. However, the company considers that to fully exploit wider geographical markets it may need to set up offices in other countries and provide a similar range of services to those offered from the Dublin office. The directors recognise that eastern Europe, particularly Hungary, is a region showing rapid developments in IT technology and thus represents a suitable market for the IT security services delivered by Espion.

From previous experience, Espion is aware of the difficulty of managing other sites, particularly if these are located abroad. The Manchester office has been a prime example of this. According to the company's directors, the main challenge of establishing new offices overseas is to ensure that employees located at these sites feel part of the company. It is not always easy to maintain a good level of rapport and connectivity with and among employees of different company sites. The directors consider that communication technology such as email or telephone is not sufficient to maintain the level of personal contact required. They consider that the only way to achieve the required level of personal contact would be to send employees from the Dublin base to spend a considerable amount of time in the new satellite office. Particularly the early stages of development would require such an investment, which creates a range of practical barriers at the same time.

In the recent past, all Espion directors have spent a considerable amount of time travelling from country to country on business. Since the establishment of Espion almost five years ago, the amount of travelling they have been required to do has been reduced. They are, therefore, somewhat reluctant to step onto the 'travelling treadmill', as they see it, once again. Acquiring an existing company located in another country is another potential option for extending the company's geographical reach. Nevertheless, this approach also presents its challenges. This route would, at the early stages of integration at least, require similar levels of communication and contact with those establishing a branch of the company in a new location. Although the need to recruit new staff may be avoided, adopting a business culture and environment that may already be well established could be challenging.

Espion is confident that there is scope for growth as their client base of large financial institutions, pharmaceutical companies and airline companies are growth industries. Furthermore, these industries are growing increasingly dependent on technology that requires protection; Espion's potential market is thus growing with its client industries.

Competition

Espion is aware of two or three Irish companies that distribute similar IT security products, which are the company's closest competitors in geographical terms. There are also several big UK-based companies selling similar products in Ireland.

Espion's competitors mainly distribute products from software brands which are widely recognised in the market place. The company attempts to maintain a competitive advantage by distributing products from newer brands offering the latest and often more advanced technology. The quality of the product that is distributed is of the utmost importance to Espion. In order to enable the company to source the highest quality products, the sales team must be equipped with the technological ability and up-to-date knowledge to take on the research required to find these products.

In general, it is difficult to successfully sell products that are less well known to partner organisations. Therefore, the knowledge and technical know-how of the sales team is highly important in order to transfer information correctly and coherently to the company's clients. This is also one of the reasons why Espion places such emphasis on further training and staff development.

In terms of consultancy and forensic investigation services, Espion is less prone to competitive pressure. The main competitive element appears when the consultancy services they offer become standardised as this opens the market to a number of potential competitors. Espion's strategy to maintain their competitive edge is to strive towards new consultancy services associated with new technology areas. In order to achieve this, the emphasis is on the continuous updating of knowledge mainly in the form of regular training.

Future challenges

Regulation

Regulation is one area that is likely to have a direct impact on the demand for IT security services in the future. Changes in international law are placing more requirements on internet security. This affects the companies based in those countries with changing regulations and also those companies operating within these markets. For example, changes in regulations in the US have resulted in the need for companies to meet stringent data security requirements. As a result, companies wishing to operate within the US – in terms of e-commerce, for example – are also required to meet US data security regulations.

The requirement of organisations in developed countries to undertake IT audits will also result in greater market opportunities for companies like Espion. As companies adopt more sophisticated technologies, their requirements for IT consultancy and security services will also increase. This can be seen as a common model for the development of new knowledge-intensive business services (KIBS), with the regulatory environment generating an increased demand for such services. This type of growth would have previously occurred mainly in the legal and accounting sectors. However, the highly dynamic nature of the KIBS sector means that it is likely to experience a constant evolution across the wider regulatory environment it serves in the future.

New technologies

The nature of the IT sector means that new technologies will enter the market on an ongoing basis. These technologies need not, necessarily, be limited to the development of hardware. One specific area highlighted by Espion was the shift in emphasis of security software from the end user to the internet service provider (ISP). Traditionally, it has been the end user that had the responsibility for security, by installing anti-virus software, firewalls and other security software. Espion envisages a drastic change in this approach, where this responsibility will shift towards the ISP to offer a 'clean' connection for consumers. This will create a new market and a different focus for companies such as Espion specialising in internet security.

Espion undoubtedly operates in a rapidly changing and challenging sector. Survival, let alone growth, is entirely dependent on the company's ability to be at the leading edge of technological advancements. Espion achieves this by continually monitoring changes and challenges in the market and recognising these as opportunities. It capitalises on these opportunities by investing in its workforce. Continuous training equips Espion staff with the skills and knowledge they require to quickly adapt to changes almost as soon as they occur. Recognising the value of its staff and demonstrating a willingness to invest in such a valuable resource is the main factor that will ensure that Espion grows and continues to be a very successful knowledge-intensive business. Non-monetary incentives to improve the quality of employees will also be essential if Espion are to retain workers within a sector where there are so many opportunities for staff to be 'poached' by potential competitors.