

**Qualitative research into businesses’
Research and Development (R&D)
decision-making processes**

HM Revenue and Customs Research Report 101

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1 Abstract and disclaimer

HM Revenue & Customs, (HMRC) in conjunction with the Department for Business, Innovation and Skills, (BIS) commissioned Databuild Research and Solutions Ltd to conduct qualitative research to investigate businesses' processes for making decisions about research and development (R&D) and to identify the effects of two state sponsored research incentives: R&D tax credits and grants for R&D, on their behaviour. To explore these research questions, qualitative interviews were conducted with managing directors, finance directors and the directors responsible for R&D in companies which undertake technology or science-based R&D in the UK. Fieldwork commenced in October 2009 and was completed in March 2010.

This report details the findings of the research and describes:

1. The kinds of organisations undertaking R&D in the UK
2. The way in which they decide how much to spend on R&D and what R&D to conduct
3. Why and how companies conducting R&D decide to apply for R&D tax credits and/or grants for R&D
4. The effect of R&D tax credits and grants on behaviour.

The reader should bear in mind that the sample for the study is small (69 organisations) and was not constructed to achieve a statistically representative sample. The results of the study are reported in general terms throughout this report (some, most, all) rather than using percentages as it is not appropriate to infer conclusions about the precise number of organisations in the market who would share the same attitudes or behaviours.

The views in this report are the authors' own and do not necessarily reflect those of HM Revenue & Customs or the Department for Business, Innovation and Skills.

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5 Summary

Background

HM Revenue & Customs, (HMRC) in conjunction with the Department for Business, Innovation and Skills, (BIS) commissioned qualitative research to investigate businesses' processes for making decisions about research and development (R&D) and to identify the effects of two state sponsored research incentives: R&D tax credits and grants for R&D, on their behaviour. Of particular interest was how far it is possible to determine whether R&D tax credits and grants result in companies undertaking research that they would not otherwise have done.

Interviews were conducted with managing directors, finance directors and the directors responsible for R&D in companies which undertake technology or science-based R&D. The companies varied in size from micro to multinational corporations. They were operating at varying stages of their development and covered a wide range of sectors. Their characteristics can be broadly described by five typologies which the study identified:

- One person, one product
- Small, research-based business
- Established SME, suite of products
- High-tech, high ambition
- Large company, separate R&D department

These typologies are by no means exhaustive or rigid, and some companies have elements of more than one typology. But the typologies serve to set the context in which the decisions on R&D are being made.

Findings

For most companies interviewed, R&D is so deeply embedded in the company that the decision whether to conduct R&D is scarcely a consideration. What needs to be decided is the priority for individual projects when resources are under pressure.

Generally, companies have an overall idea of where the R&D is heading. Decision-making processes within this are informal and flexible, with minimal documentation. Any form of financial evaluation other than an estimation of potential sales is rare. Project lengths vary greatly and the start and end of individual pieces of work are not always defined.

Applying for R&D tax credits is seen as a matter of accounting routine and there appears to be a disconnect between the R&D and finance functions in many companies. Very often, those engaged in R&D are not personally involved in making the claim since it is handled by others, frequently outside the company. The provision of the required information can be challenging at the start but soon becomes part of a routine. At the end of year, external accountants play a major part in giving advice and processing the claim but do not always provide accurate information.

Third parties are also very important in guiding companies towards the grants and in providing assistance with applications. This includes both HMRC specialist R&D units and accounting professionals. In general, the advice and support provided is helpful and effective.

Many companies find the procedure surrounding grant applications time consuming and onerous. In particular, ongoing reporting during the period of the grant is often described as tedious. The requirement for match-funding causes difficulty for some companies and may be off-putting. Some companies acknowledge that they may 'tailor' a project to suit grant criteria and may divert from the company's overall goal in order to secure the funding.

R&D tax credits are described by almost all the sample as a bonus. The general opinion was, though, that they have little if any effect on decisions to conduct

individual pieces of R&D work. This disconnect appears to be caused by the timing of claims and the gap between R&D and the finance function.

In most companies, however, there is a belief that the overall amount of R&D is increased as a result of the R&D tax credit system, though it is difficult to obtain quantitative evidence of this effect. The suggestion made is that in the long run, as R&D tax credit claims are made and received, confidence grows in the availability of this source of funding which can be invested in future R&D projects. For smaller companies, in particular, the cash flow is an important benefit which may allow the next R&D project to go ahead, possibly sooner than it may otherwise have done. Some respondents also say that R&D projects with a greater risk profile may be able to proceed because of the credits.

Grants are crucial to many start-up companies and vital in the early stages of the life of research-based SMEs. There are also significant indirect benefits arising from the award of a grant.

The business disciplines imposed by the grant application process can be helpful to the management of the company. The award of a grant may exert a leveraging effect on other funding and is beneficial in terms of recognition and kudos for the company. Staff recruitment and retention is often improved as a result. R&D rarely goes to waste and may be usable on future projects. Networking, which often arises through the third parties involved in the grant process, can open up opportunities for further work.

It is clear that accountants and other professionals do not always provide accurate information about government support for R&D. This leads to uncertainty amongst those applying for grants and making claims for R&D tax credits about what and when they may claim for. It is not uncommon for companies to discover R&D tax credits, for example, only when they appoint new accountants.

Guidance for the reader

The reader should bear in mind that the sample for the study is small (69 organisations) and was not constructed to achieve a statistically representative sample. The results of the study are reported in general terms throughout this report (some, most, all) rather than using percentages as it is not appropriate to infer conclusions about the precise number of organisations in the market who would share the same attitudes or behaviours. In turn it is not possible to provide detailed recommendations for future policy or delivery.

6 Introduction

6.1 Background to the research

In August 2009, HM Revenue & Customs and BIS commissioned qualitative research to investigate businesses' processes for making decisions about research and development (R&D) and to identify the effects of state sponsored research incentives, such as R&D tax credits and grants, on their behaviour. The results of the study aim to inform evaluation of the effectiveness of R&D tax credits and grants in increasing R&D undertaken by business.

Innovation is seen by the Government as critical to the UK's future prosperity; boosting and focusing investment in innovation in areas where the UK has strength and potential future competitive advantage is a key element of government action to facilitate business growth.

R&D tax credits and grants are intended as practical tools to incentivise companies to invest in research and development. The principal elements are:

- Tax relief which allows companies to reduce their tax bill, or in some cases obtain cash payments, by up to 24.5% of qualifying R&D spending for small companies or 8.4% of spending by large companies
- Under the SME scheme, eligible companies can claim an enhanced deduction when calculating the taxable profits of up to 175 per cent of the qualifying expenditure on R&D. The equivalent figure for the large scheme is 130 per cent.
- BIS grants to support selected R&D projects¹; these make a contribution towards the overall cost of R&D conducted by firms on their own or

¹ The research focussed on Grants for R&D, but also considered Collaborative R&D grants where this was applicable. Throughout this report, Grants for R&D (micro, research, development and exceptional) are referred to in shorthand as grants.

collaborating with others. Support is also available for businesses working with knowledge base institutions

- Vaccine Research Relief (VRR) provides additional tax credits for expenditure on research and development into vaccine and medicines for the prevention and treatment of malaria, tuberculosis and HIV/AIDS in humans.

Over 44,000 claims for tax relief had been made as of March 2008, amounting to nearly £3.9 billion of support. In 2009/10 the Technology Strategy Board (TSB) awarded £190m in Collaborative R&D grants and a further £25m was awarded through the Grant for R&D scheme².

6.2 Aim and objectives

The aim of this project was to inform the evaluation of R&D tax relief and grants by providing qualitative evidence on the behavioural effects of state sponsored research incentives.

The objectives of the research were:

- To provide qualitative evidence of the behavioural effects of *R&D tax relief* on claimants as well as exploring the research-specific decision-making processes of such companies
- To provide qualitative evidence of the behavioural effects of *R&D grants* on claimants as well as exploring the research-specific decision-making processes of such companies
- To explore the research-specific decision-making processes of innovative companies that undertake R&D but do not claim their public support.

² Figures exclude co-funding and are subject to end-of-year adjustments.

6.3 Methodology³

The sample was drawn from databases supplied by HM Revenue & Customs and BIS, providing 1923 contacts in total. Letters were sent to a stratified random sample of 677 of these, explaining the research and inviting participation while offering them the opportunity to opt out (see section 16.3). A total of 102 companies chose to opt out by responding to the letter. The remaining 575 formed the basis of the sample for the study.

The letter included both the HM Revenue & Customs and BIS logos while making it clear that the approach was coming from an independent research consultancy. Where a response was not received within a period of two weeks the organisations were telephoned to identify the key contact, explain the research and invite them to participate.

The final sample for the study comprised 69 companies:

- 15 claimants of SME scheme R&D tax credits
- 11 claimants of large scheme R&D tax credits (including four organisations that have claimed VRR)
- 15 claimants of R&D grants and tax credits
- 16 claimants of R&D grants only
- Four organisations that conduct R&D in the UK, but have not claimed tax credits or grants
- Eight organisations that received an R&D grant before 1 April 2007, but have not subsequently claimed/received public support.

The research consisted mainly of face to face interviews held at the company's premises. Interviews were scheduled to last around one hour.

Within each organisation the key contact was the person who is principally responsible for R&D in the company. In larger businesses this was usually a research manager or director, while in smaller firms it was normally the MD/chief

³ Full details of the methodology can be found in the appendix of this report.

executive or another senior manager. Interviews were also undertaken in the sample companies with senior financial decision-makers and individuals responsible for processing R&D tax credits or grant claims. In addition, to explore issues raised by respondents, telephone contact was made with six accountants who worked on R&D tax credit claims, and with one venture capitalist.

Further details about the methodology can be found in the appendix of this report including information about:

- Sampling and the recruitment process (including number of organisations approached and a breakdown of call outcomes)
- The opt-out letter and number of opt-outs
- The profile of respondents.

6.4 Scope of the report

This report describes:

1. The kinds of organisations undertaking R&D in the UK
2. The way in which they decide how much to spend on R&D and what R&D to conduct
3. Why and how companies conducting R&D decide to apply for R&D tax credits and/or grants for R&D
4. The effect of R&D tax credits and grants on behaviour
5. Further opportunities for HMRC and BIS to influence the amount of additional R&D undertaken.

6.5 Guidance for readers

The sample for the study is small and was not constructed to be statistically representative. The results of the study are reported in general terms throughout this report (some, most, all) rather than using percentages as it is not appropriate to infer conclusions about the precise number of organisations in the market who would share the same attitudes or behaviours. Table 1 provides a general guide for the reader to assist in interpreting the observations made in this report.

Table 1 How to interpret comments in the report relating to magnitude of response

Comment/observation in the report	What this means
One respondent or a reference to an individual response (e.g. a quote)	One respondent provided an insightful comment which we felt should be reported, but, unless otherwise stated this was not mentioned by other respondents and is not necessarily a representative view
A few or several	More than two but less than five of the relevant respondents (e.g. grant claimants)
Some	More than five respondents but less than 50% of relevant respondents
Half	Roughly 50% of relevant respondents
Most	More than 75%, but less than 95% of relevant respondents
All or nearly all	All or 95%+ of respondents

7 Company typologies

This section outlines five typologies which describe many of the companies interviewed:

- One person, one product
- Small, research-based business
- Established SME, suite of products
- High-tech, high ambition
- Large company, separate R&D department

These typologies are by no means exhaustive or rigid, and some companies have elements of more than one typology. But the typologies do serve to illustrate the context in which the decisions on R&D are being made.

7.1 Overview

The characteristics of a company can be a function of a broad range of elements which affect their behaviour, including their stage of development, the personality of their founder and/or MD, their financial state, the nature of the competition, their relationships with their customers and their attitude to risk. Many of the companies interviewed, even though they operate in widely differing markets, can be seen to demonstrate similar sets of characteristics. These characteristics have been used to build a range of profiles, or typologies, to illustrate this report.

Although these typologies are in no sense rigid, and many of the companies can be described in terms of more than one typology, the process of considering the characteristics of the following five typologies is helpful in building up a background picture to set behind the decision-making processes which are explored later in the report.

7.2 One person, one product

This company is driven by, and may well consist of little more than, one person and one idea. Often a passionate inventor with a background in science or engineering, the founder of this company is putting heart and soul into the success of the business, frequently at considerable personal financial risk and to the detriment of family commitments. The effort is directed entirely towards the technical research and development of the product often with little attention paid to the potential customer. Considerations of market, price, potential sales and the like are secondary – the important aim is to get the product to a workable state.

This founder frequently has links with a university, often one from which he or she gained, for example, a PhD. The founder may work alone, or there may be one or several employees, often part-time, and some R&D work may be carried out by outside scientists or engineers on a contract basis. The founder is personally involved in all the R&D decision-making, though s/he may also consult a small management team.

A grant can be crucial to developing their idea – the business simply would not exist without it. Since the company is unlikely to be in profit yet, the R&D tax relief commonly takes the form of a payable credit, which is very important for cashflow.

7.3 Small research-based business

Within this company, there is a constant search for new ideas. R&D is at the heart of the business – respondents talk of the business not existing without R&D. The work, though, is not yet driven by the needs of customers and thinking about the market is not a significant feature of the way the company operates. There is a relatively low level of commercial skills and resources in business support functions (finance, sales, marketing, HR etc) and decision-making is informal, ad hoc and rarely documented, often taken by the MD and individual scientist or engineer together,

though sometimes as a larger team. The amount of R&D that can be carried out is dictated almost entirely by cash flow.

R&D tax credits are useful in the overall budget, though not as a part of individual project decision-making. Grants can be crucial to the pursuit of opportunities and the development of the business and can be the difference between life and death for the company.

7.4 Established SME, suite of products

This is likely to be a somewhat larger company, up and running for a number of years. It has developed a range of products, usually related, and the product range is in constant need of updating and upgrading for the purposes of customer retention and to stave off the competition. R&D is therefore frequently incremental, moving in small steps based on previous developments rather than taking leaps into new areas.

Respondents talk of the luxury of blue skies work, or even of being able to afford to do their 'own' research, rather than the work dictated by, and thus regularly funded by, customer need. R&D is being carried out constantly, with projects merging into one another, often without a clear start and finish.

Decision-making is very informal, although it is usually in line with some form of Road Map which outlines the direction the company intends to take over the next few years.

For this company, R&D tax credits are a welcome bonus, but are rarely, if ever, part of the decision-making process on an individual project. Grants however, can be very important for the development of new or improved products.

7.5 High tech, high ambition

This company is often working in biotechnology or software development, carrying out innovative research in new areas. It is frequently loss-making but has secured

some form of external funding, perhaps venture capital, and is working to a longer term future, with an uncertain outcome but potential for significant commercial exploitation years down the line. Work on producing new medicines, for example, is generally expected to take between seven and fifteen years to advance from an idea to a saleable product. The company's profile is higher risk and at present it has minimal focus on future customers. It may be a spin-out from an academic institution and/or a collaborative venture; if so, its decision-making processes may be slower and less flexible.

If this company is a loss-making business, it may see R&D tax credits as irrelevant and may well not even be aware of the option to apply for the cash element. Grants are often vital to the start and continuation of projects and often provide leverage for other investment.

7.6 Large company, separate R&D department

R&D is conducted in a distinctly separate department and this appears to affect the decision-making process. To the R&D staff, the finance and other commercial functions of the company seem quite remote. Scientists and engineers supply information to colleagues in the finance or tax departments but have little knowledge of what happens as a result. Decisions on R&D are made within an overall company budget set by the finance department and those involved in R&D have little opportunity to influence the amount of money available. However, it seems that the R&D budgets are not under significant pressure at present and if a good case can be made to conduct a particular piece of R&D, the budget will allow it to proceed.

The R&D tax credits may or may not be credited back to the R&D department's budget, but they are not, in either case, allocated to individual projects. Work may be proceeding under collaborative grants with universities. These large companies are looking for high capability SMEs as suppliers or potential acquisitions (for example, the high tech, high ambition companies described above).

8 Case studies

8.1 Company A – Large scheme tax credits (established SME, suite of products)

8.1.1 Company and product profile

A 27 year old £1m turnover company which develops and markets software for one specific industry, company A employs 15 people in the UK, 10 of which are engaged in some form of R&D. In addition, and purely for cost reasons, they have established a separate company in Bangladesh, staffed by 15 software developers, which writes software to the specification of the UK developers. Roughly one third of the company's turnover is spent on R&D. This figure is extremely difficult to define but is expected to remain static for the next year at least. The company has not been adversely affected by the recession (yet) because they are working to long lead-times, typically three to five years. As an organisation, they need '*huge faith and tenacity to keep doing what we're doing*' – belief in the long term future is crucial.

The software they sell is usually still under development; they and their customers are very aware that it is likely to be upgraded/superseded shortly. Development costs are recouped over the lifetime of the product, which could be five – seven years, with each product being sold between 5 and 50 times and possibly breaking even after, say, three or four sales. This means that the most profitable products are "*the old rubbish*", with the "*exciting good stuff ... costing us money.*" As a result, it is very hard to forecast whether and when a new product will ever pay its way, and decisions to proceed with a particular piece of R&D are made in this light.

8.1.2 Decision- making process

R&D is so intrinsic to the company that decisions about it are hard to disentangle from other business processes. There is no formal overall written software

development strategy. The MD sees himself as walking through a misty landscape, visualising the future, knowing where he wants to go and travelling towards it, but not knowing exactly where or what it is. Opportunities present themselves in the form of pathways which may not lead exactly in the direction of the main target, but converge towards it – these may be ideas for product improvements from the software developers, or requests from customers. These incremental decisions have an opportunistic element; the MD is prepared to zigzag towards the goal, since he does not have a completely fixed vision of what he is zigzagging towards. However, every year, that vision changes because of technological and market developments, so the goal needs to be constantly updated.

All R&D projects must meet two aims: they must have the potential to make money by meeting customer needs and must move the company towards the general goal. If a proposed project does not achieve both these, it will be rejected. Payback periods of three years are acceptable but very often it will turn out to be five years.

Decisions to proceed on individual pieces of R&D are being made almost daily, with most of them being incremental, not major projects. Development staff will make most of these decisions themselves, operating within the guidelines above. Bigger decisions are made by the three directors quite informally – “*There are too many factors and too many R&D decisions*” to allow for formal evaluation, so they rely on an informal, close communicative working style. “*R&D decisions are being made constantly – it’s more an attitude of mind.*” In addition, it is difficult to establish the start and finish of any one project, as they are rarely discrete entities.

8.1.3 Effect of R&D tax credits

“*Tax credits don’t have any influence on our decisions.*” The MD viewed them as a piece of bureaucracy and would prefer the overall tax rate to be 1 per cent lower instead. He did not know how much the company actually receives but thought it was probably “*marginal*” to their profitability.

“*If we are trying to justify a piece of R&D, the tax credit would not be a part of our discussion – if it needs to be encouraged by a tax credit, then it shouldn’t be done.*”

“If it [the tax credit system] didn’t exist, we would not have made materially different decisions over the last five years.”

However, the money is welcome on the bottom line and the claims will continue. The claims have always been made through the company’s normal end of year accountant (who advised on how to make the initial claim) and HMRC has never raised any queries. However, the decision has now been made to seek a specialist firm to prepare the claims, to whom a percentage charge (probably up to 20 per cent) will be payable. Despite attempts always to be very straightforward on the tax return, the MD is concerned that because of the extreme difficulty of defining a project, HMRC will in time raise queries on his claims, so is keen to take expert advice. He also hopes that this specialist may tell him that he has under claimed in the past and can now make some retrospective claims.

The MD was not aware of grants available for R&D but assumed they would be too difficult to apply for – *“We’d end up having to withdraw the application or massage the project, or even change the business to match the grant-making opportunity.”* He would therefore not wish to apply.

8.2 Company B - Grant and R&D tax credits (small research-based business)

8.2.1 Company and product profile

A high-tech engineering company, Company B turns over around £2m and employs 34 people. Most of them are very highly qualified, and nearly all have some R&D input; at least a dozen spend a third to a half of their time on it. The scientists and engineers are highly skilled and knowledgeable and work fairly independently on their own projects. The company spends about £300k per year on R&D, a figure which has remained fairly steady for the last few years. The work involves investment in very specialist, expensive testing equipment.

R&D is absolutely intrinsic to the company’s existence, with production and R&D very closely linked. *“We’re an R&D company; it’s as simple as that. We live by research.”*

Most R&D work is incremental and much is done to meet customers' needs. The R&D can sometimes therefore be funded by the customer, who may then take ownership of the resulting IP. The market is not one where products are likely to be sold in large numbers (ten would be a large order), so the company has not taken out patents, preferring to design specifically each time.

8.2.2 Decision-making process

Decisions on R&D are being made constantly, every day. Prioritising is not easy, as everyone is always busy. But priority is given to projects with an obvious and immediate customer need and therefore a return, though there is no formally specified payback period or percentage ROI. *"Usually, if you've got one person [research staff] doing something, you let them get on with it. The R&D budget is just what happens."* (Finance Director)

Smaller decisions on relatively few man hours are made *"on the hoof"* often by the scientist or engineer him/herself as the opportunity arises. Bigger decisions are taken in a group comprising the MD, Principal Scientist, Chief Engineer, Marketing and Finance Directors, convened specifically for that purpose. The decision will be based on the number of person hours likely to be involved and the level of confidence in the market for the finished product. But quite regularly, *"people suddenly find they are doing something new which should have gone down as R&D"* so the system is very informal and flexible, with no formal evaluation at any stage either pre or post the decision to proceed.

Each project has a Job Number and hours are quite meticulously booked to each, which facilitates accurate costing for each project in retrospect.

8.2.3 Effect of R&D tax credits

The Finance Director stated that the R&D tax credits have no actual effect on individual project decision-making. *"We have to do R&D as it crops up."* But if the credits did not exist, she believes that she *"may be less willing to say yes to suggestions for R&D projects, and I might be more cautious when a scientist wants to do some research."* *"It gives you the opportunity to do what you want now."*

Without the R&D tax credits, the respondents felt that the company would be less profitable and therefore would not have grown and would not now be able to employ so many people. If cuts were required they would not necessarily be made in R&D as this area is so crucial, but savings would have had to have been made in other ways.

8.2.4 Effect of grant

A two year grant of £90k awarded in 2007 funded a specific piece of research which, although it was not eventually fully exploited as envisaged, did have spin-off benefits which have been useful in the context of other work since. Without the grant, the project would not have gone ahead at that time, but would have had to wait until internal funding was available. However, the MD felt he *“would not rush to apply again”* as the match-funding requirement put considerable strain on the company’s cash flow and the terms and conditions seemed quite onerous. He would prefer to see smaller grants made available, with *“fewer strings attached”*.

8.3 Company C – SME tax credits, sporadic claimant (established SME, suite of products)

8.3.1 Company and product profile

Company C is a developer and supplier of specialist accountancy and database programmes. Formed in 2000 to deal with a specific market, it is an autonomous company within a larger group which provides other services to other markets. The parent company has little influence on Company C, and virtually none on the R&D work. Company C’s annual turnover is around £3.5m and falling because of the recession. Their R&D spend is falling too, down from £150k in 2007 to an estimated £120k this year.

There are 27 members of staff in the UK office, of which 11 are involved in R&D, spending around one third of their time on it in total. A wholly owned Indian subsidiary, described as an internal contractor, was established four years ago

largely on cost grounds. Three of the ten staff members in the Indian company conduct R&D full time.

The product is fundamentally one offering which is then marketed with different names and slightly different features to individual sectors. In addition, there are add-ons and modules, which can be sold separately. When a sale of the main product is made, a maintenance contract is entered into with the customer, set at 20 per cent of the capital cost per year, to provide the customer with updates and improvements. The R&D work must offer innovative new solutions in these updates – this is vital for customer retention which is a priority.

8.3.2 Decision-making process

The company's stated aim is to continue selling the main package, whilst developing both it and additional modules to enhance it. They are very aware that they must aim to do better than the competition by innovating, which is the only way they will sell anything. Most R&D is in response to customer request for product enhancements, or a drive to offer a feature currently already offered by competitors. Most of the work has some technological risk, in that it may not succeed, but equally, most is based on the fact that the customer does want it and is willing to pay, if it can be done.

Decisions are taken almost daily, quite informally, with the Finance Director describing the process as "loose". They will undertake as many projects as they can afford within existing resources. Each opportunity is assessed against the following criteria:

- Will it provide extra software modules which can be sold individually?
- Does it provide extra features to help sell the existing product?
- Does it move the product towards its next evolution?

The Executive Board (MD, FD, Sales and Customer Services Director) meets every two – four weeks to review the software development plan and make the bigger decisions. The constraining factor is always manpower.

8.3.3 Effect of R&D tax credits

Although both the MD and FD were very aware that R&D tax credits are being claimed, since they supply figures to the Group Finance Controller for this purpose, neither had any idea of the size of the claims nor whether they were successful. *“I don’t know if we’re getting tuppence or £2m”* (FD). The credits are not allocated back to Company C’s budget. The respondents’ decisions are therefore unaffected by the existence of R&D tax credits: *“they’re not driving this business at all”* (MD).

However, although the credits are described as *“a non-influencing factor”* by the FD, he does recognise that without them, the Group profit would be lower and there might be a resultant rise in the overhead payable by Company C to its parent. This could result in having to make cuts internally.

Records show Company C as a sporadic claimant of R&D tax credits, but the respondents could not understand why claims have not been made regularly, since they have supplied information each year to the Group Financial Controller to allow claims to be made.

Neither respondent was aware of the existence of grants for R&D.

8.4 Company D – tax credits, regular claimant (high tech, high ambition)

8.4.1 Company and product profile

Company D is a £1.2m turnover computer games designer which has been in business for 12 years. It sells to games publishers worldwide. The staffing levels vary between 10 and 30, with a varying proportion of full time, fixed term and contractors, depending upon the current workload. Nearly all of them are software designers, and capable of R&D. However, the MD and founder made the strategic decision several years ago that R&D work must be restricted to the value of 20 per cent of the company’s turnover and done only by the full time PAYE staff.

Around one third of Company D's work is "*competitive edge stuff*", whilst the remainder is contract, which the MD describes as "*working for hire*", when the customer specifies what s/he wants, and the software designers write it to order. Most projects take up to six months, minimum three months, though some important projects will take longer.

The main challenge to the company is keeping ahead in the fast changing, constantly evolving market and they can only do this through R&D. "*Innovation is the key to staying competitive and pushing the boundaries*" (MD). Innovative work develops games and ideas which can then be sold or licensed by Company D itself; this is the only way for the company ever to produce a big success which will make very significant money and as a consequence enhance their reputation and attract further work.

8.4.2 Decision-making process

The MD plus three senior technical advisors form the management team and make the decisions about which projects to pursue. It is an informal process, with very little formal documentation required. The software developers bring ideas that either they or customers have generated; they may be formally written out, though they are often only verbally presented. Decisions to take up a project will be based on the number of man hours to be expended, and the likely market. As a small company with a tight management team, they follow the principle described as "*Agile Development*". This consists of stating the end goal and the first element of the project, after which accepted projects are managed, scheduled and reviewed weekly and monthly in a "*reasonably structured manner*."

Although there is always an element of risk to conducting R&D, very little work ever goes to waste. Even if the individual project does not end up being sold on its own account, the work can nearly always be incorporated into another project later on. This is a factor which is taken into account when making decisions to proceed on a proposed project.

R&D work is always conducted in house by full time staff partly to retain close control and partly because of the highly commercially sensitive nature of this work. Lower

level, less creative work is occasionally outsourced to Hungary and Serbia because of cost.

8.4.3 Effect of tax credits

The company has claimed R&D tax credits for every year for which it has been eligible and the MD stresses how extremely important they are to him. The system has a significant positive effect on the amount of R&D which the company conducts, though not on individual project decisions. Without the credits, he states that the company would not be able to afford to spend more than 5 per cent of its turnover on R&D and would therefore hardly innovate – they would end up *“just working for hire”*. This would reduce the company’s chances of making *“that triple A hit that every developer wants to hit”*. With a significant success to their name, Company D would be offered more challenging work which would help with recruitment and retention of staff and increase job satisfaction, thus maximising growth potential.

As a member of TIGA (The Independent Games Manufacturers Association), Company D is aware of the lobbying which is being carried out to increase government tax support for the industry. The MD’s impression is that the R&D tax credit support now in place has helped to arrest Britain’s slide down the international games development league tables, but has not yet been sufficient to help the industry regain a place in the top three where he believes it belongs. He understands that the Canadian, Australian and French governments have all provided even greater support to their games industries, luring games developers to their shores and offering incentives to investors.

8.5 Company E - grants and R&D tax credits (one person, one product)

8.5.1 Company and product profile

The founder of Company E has developed and is now bringing to market a highly sophisticated and technically innovative measurement system. The company was established in 2005 and for the last four years it has been in set up mode, turning

over between £30k and £70k. This year, turnover is likely to be in the order of £500k as the first major sale has been made. During the first years, Company E has received two grants, the first for £70k (representing 60 per cent of the cost) for the development of a prototype and the second (£20k, 50 per cent of the cost) to turn it into a marketable machine.

The founder is the only person who works full time for the company, with a commercial manager and an administrator/bookkeeper working part time. Three people work on R&D, again part-time (with one based in Poland) though most of the set-up R&D work has now been done. R&D was distinctly blue skies in the past, but now at least 80 per cent of it is incremental, working to make improvements, largely customer driven. Spending on R&D this year is likely to be 75 per cent of turnover, but the founder expects it to represent a much less significant proportion in the future as other functions take over and sales grow. *“Without R&D there is no company”*.

Now that the initial product has reached an advanced stage, the R&D is beginning to explore whether and how the basic measurement principle can apply in other markets. It is likely that later this year another product will be launched in a completely separate area. Progress is expected to be much quicker on this development as a result of the experience with the first product.

Detailed planning for the company is done on a three year horizon. The broad five year plan shows turnover reaching £8 – 10m by 2015.

8.5.2 Decision-making process

The founder makes all the decisions on R&D personally and has driven the initial development by himself. The further R&D work being done now is guided heavily by the customer (there is only one at present) who is suggesting developments and improvements and is prepared to pay for at least some of them. Clearly, when the customer is willing to invest, that R&D work will take precedence. Otherwise, decisions on priorities are taken in the light of where the company needs to be in the next year or two, with consideration being given especially to whether the R&D has application beyond the current market.

8.5.3 Effect of grants

Company E's founder is very clear that he could not have started the company without the grant. The process of applying for the initial £70k grant, for which he received advice through Business Link, was acceptable, though not easy, and the project fitted the grant criteria very well. However, it took twice as long as promised to reach a decision which was highly frustrating and caused costly delays in the management of the project. The second grant (£20k) was a much less straightforward process and Company E's founder reports that *"the effort exceeded the gain – it would have been easier for me to go out and sell some consultancy services."* The post grant administration, in particular, seemed very onerous, with an apparent requirement to justify every £1 spent.

One positive effect of the grant application process – and subsequently, of the R&D tax credits claims – is that meticulous and detailed planning was required. This was certainly more than Company E's founder would have otherwise carried out, but it has now become an ingrained discipline which he acknowledges as very helpful.

8.5.4 Effect of R&D tax credits

R&D tax credits have no influence on what R&D the company does, but they do have an influence on the amount: *"We have to do R&D, but in the end it [the tax credit system] will affect how much R&D we can do. Currently, it just makes the accounts look nice."*

Company E's founder describes attempting to obtain guidance on tax credits two years ago as *"a nightmare"*. Numerous unsuccessful attempts to call what seemed to be relevant HMRC helplines only led to conversations clearly based around tax credits for people on low incomes. He eventually abandoned the struggle and sought help instead from an accountant with tax credits expertise.

8.6 Company F – grants and tax credits (large company, separate R&D department)

8.6.1 Company profile

Company F is a major international company, operating from sites all over the world. The major sites are in US, China and Europe. Location is based on the size of the market, the quality of the science base and the regulatory environment. There are several thousand staff in the UK, at a number of locations.

Research and development is a very distinct activity and around 10% of the company's R&D is conducted in the UK (compared to just 3% of its sales). The UK science base is the fundamental reason for locating such a relatively high proportion of the R&D in this country, compared to its share of the market. *"There is a critical mass of scientists [in the UK]".* It also helps that there are *"research friendly regulators."*

R&D is also conducted in US and China, both of them largely driven by the quality of the science base. Singapore and Ireland have very favourable tax regimes for R&D, but since both the markets and the science bases are less strong there, Company F has only small R&D facilities there. They expect India and China to be the main competition for the UK in terms of location of R&D operations in the future – they are large markets, there is a large pool of good scientists, they are *"hungry and they work their socks off."* The company has found it easier to do deals there too – *"I did two deals in four days. That would have taken six months in Oxford or Harvard."*

8.6.2 Decision-making process

The company has a technology investment board that reports to the main board and a formal process for approving R&D projects. The Chief Executive and the Head of R&D make the major decisions, armed with a structured proposal based on net present value, which does not include R&D tax credits. Respondents believe that the R&D tax credits are retained centrally and did not think that the availability of tax

credits is factored into the decision making. *“A manager is not going to build a centre somewhere just because of those incentives. The tax credits are just not big enough to make that much difference.”*

8.6.3 Effect of grants

The company has a close relationship with the Research Councils and the Technology Strategy Board and is involved in collaborative projects which are grant-funded. Grants are also seen as essential in supporting academics: Company F co-funds considerable numbers of post doctoral researchers, many of whom are also funded by or use facilities funded by Research Councils. Less directly, clearly, this also supports wider science base.

Respondents are aware that for many SMEs, *“grants can be critical”*. They explained that grants help SMEs to get established and do early stage research which provides ideas and opportunities for Company F. Essentially SMEs use grants to take risks that Company F is unwilling to take. But if these grant-funded projects are successful, Company F can license from the SME or acquire it at a later stage in the development when the risks are lower and the potential is clearer.

The company is aiming to establish several science parks for SMEs.

8.6.4 Effect of tax credits

“The messages are as important as the reality.” R&D tax credits are seen by senior management as a signal that the government is in favour of R&D. *“If you withdraw them there might be the perception that the government isn’t interested [in R&D] any more. It would be a negative. They don’t cost the government a large amount of money. If they did get rid of them it wouldn’t be a bad thing for [Company F] but I think the government would be besieged by others voicing their displeasure. For the SMEs it is more of a lifeblood.”*

For Company F, tax credits appear to be welcome but not a significant part of any decision making. *“Tax credits are useful to us..... Are they at the top of the list for investment decisions? No, but are they on the list? Yes.”* The fact that most other

countries have similar tax incentives means that *“the UK becomes uncompetitive if they didn’t have them.”*

However, the help given by the government in the form of its support for the science base is seen as more significant. The strength of the science base is a major factor in the UK – *“If they [the government] took tax credits away, it would concern senior management, but Ireland or Singapore aren’t going to blow England out of the water.”*

Tax credits are also important to SMEs and Company F acknowledges its reliance on a healthy, vibrant SME base. SMEs develop products and technologies which Company F can purchase or license: *“Without them [SMEs] we are dead in the water”*.

9 Decision-making processes

This chapter looks at the way decisions are being made about conducting R&D. For most companies interviewed, R&D is so deeply embedded in the company that the decision whether to conduct R&D is scarcely a consideration. Generally, companies have an overall idea of where the R&D is heading. What needs to be decided is the priority for individual projects when resources are under pressure. Decision-making processes within this are informal and flexible, with minimal documentation. Any form of financial evaluation other than an estimate of potential sales is rare. Project lengths vary greatly and the start and end of individual pieces of work are not always defined.

9.1 What, when and how, not whether

For many companies, R&D is the key to staying alive. It is crucial to keep ahead of the competition in fast-moving markets and innovation is the way to gain and retain customers. There is therefore no question that these companies will conduct R&D.

“We live by research – we’re an R&D company, it’s as simple as that” - MD of small high-tech engineering company

“Without it [R&D] we wouldn’t have a business. We can’t compete on any dimension except R&D” – founder and MD of digital imaging company

*“Our whole philosophy is driven by R&D because we design everything we sell.”
– MD of medium sized engineering company*

The real questions are how much R&D to conduct, when and how. Answers to these questions of priority are dictated largely by resources, both financial and human. R&D is often driven by customer requests, and this may mean that a customer is prepared to pay for the work. In this case, it will take priority, as will work where an eventual sale is relatively certain.

The availability of staff with the right, high level skills may impact on the decision. In general, the preference appears to be to conduct the work in house, for reasons of control and confidentiality. If the skill requirement on a particular project is lower and its budget is small, companies will consider subcontracting the work, sometimes abroad. The same may apply if there is a need for very specific skills which are not available in house, though issues of security can cause concern if commercially sensitive work leaves the confines of the company and there is a risk of it being copied and stolen.

9.2 More D&R than R&D?

Much of the R&D work conducted is product development or enhancement, as opposed to pure research into new areas. Some respondents are uncertain whether this work really fits with the official government definition of R&D, and talk of having to refer to R&D tax credit guidelines or consult advisors. The tendency is to under claim, rather than over claim, for fear of having the claim rejected.

Companies distinguish between two types of R&D:

- what they often call their 'own' R&D, by which they mean work which has been suggested by scientists or engineers rather than asked for by customers; and
- work which is conducted to meet customers' needs or requests or is described as incremental.

'Own' work is highly prized as it can provide much more excitement and reward, both emotional and financial, for the scientists involved. Blue skies work is frequently regarded as a luxury, and respondents sometimes reminisce about the early days of a company when the original ideas were still being researched in a way unconstrained by the needs of the market.

"For years it was just X [name of MD] in his barn with four machines. Now it's six engineers here very full-time" – FD small defence engineering company

Some respondents still talk of conducting R&D outside working hours, often at home in the shed at weekends. Some of that work may eventually feed into a more substantial R&D project if it turns out to be successful.

“The director conducts basic and blue skies R&D in his spare time, tinkering at home at weekends” – FD small energy engineering company

The balance between research and development is dependent upon financial considerations. Work which is commissioned by customers and/or has a reasonable chance of reaching a willing market, will take precedence. The amount of ‘own’ work may be dictated by a set percentage of turnover, or simply by what resources are left over after customer work has been done. The ratio of customer-driven to ‘own’ R&D is frequently expressed as roughly 80:20.

9.3 Road Maps

Companies rarely have a formal strategic plan for R&D, but many have what they may call a Road Map. This will outline the general direction that the R&D is intended to take over the next usually three to five years. Within this, there is likely to be a more explicit plan for the next year, which consists of a list of projects and timings. Most companies hold monthly or at least quarterly reviews, at which these Road Maps, or equivalent project lists at least, will be reviewed. The MD, usually with the rest of the management team will allocate or reassign resources as necessary in the light of progress on each project. This is also the time at which new projects may be accepted or turned down.

Occasional diversions from the Road Map are not uncommon, but are generally recognised as temporary diversions. The company may choose to take advantage of opportunities presented by customer requests which, although not strictly in line with their chosen direction, do move the company along and provide cashflow.

Furthermore the chance may arise to undertake grant-funded work which would not necessarily have been done if the funding were not secure, but which offers a level of security for the limited period of the project. Such diversions from the Road Map are

seen as acceptable, particularly if they can deliver additional benefits, such as R&D which may be used later on other work.

9.4 Informality

Decisions on R&D appear to be made almost constantly, both in and outside meetings. They may involve any combination of the MD, the technical director, the sales or commercial director and one or more of the scientists. However, in smaller companies, the finance function is not often specifically represented, even where the company actually has a senior finance person.

In companies where regular review meetings are held, minutes or other formal records of the meeting are rarely kept. If there is a Road Map or project list, this will be updated to reflect decisions taken at the meeting, but there is no record of the discussions and rationale behind the decisions.

Case statements are often verbal, or based upon a single page description. It is unusual for a company to impose a template or other guidance on the proposal and a minimal amount of commercial information or marketing background appears to be required at this stage. Many respondents talk of the decisions being made based on gut feel.

Technical specifications are, however, usually drawn up and form the basis of resource allocation decisions.

9.5 Financial evaluation

The chief consideration is simple: are resources available? The level of financial detail required rarely appears to go beyond the question of whether the company can afford to do this work now. This is expressed in terms of person/days or weeks required, and any outlay needed on equipment or consumables.

There is no evidence of the use of required return on investment levels or discounted cash flow calculations at project decision-making level.

“We don’t use specific accounting tools to evaluate R&D – there are too many unknowns in our projects and the tools are too complex for what we need.” – MD of software consultancy

Indeed, even payback periods can be very flexible and are frequently underestimated:

“We usually fool ourselves that it’s going to be three years, but it nearly always turns out to be five.” – MD and founder of software development company.

R&D projects are not often formally evaluated after completion.

“R&D is an article of faith, not something we evaluate” – R&D Director, SME in sound amplification

The real evaluation lies in whether the product works and sells, and for most companies, this is enough. Occasionally, scientists or engineers will conduct a post mortem on a project, particularly if it did not go as well as expected and there may be an attempt both to learn from mistakes and to salvage what can be used.

9.6 Timings

After the initial decision to go ahead with a project, further decisions are made ad hoc, as required by the schedule of the project and/or at regular review meetings. It is not unusual for the project to be outlined only to the very first level at proposal stage, as it may well not be possible to define exactly the work to be done until some development work has been carried out. Projects therefore return to review frequently. This flexibility is crucial in allowing companies to react to technological developments, market changes and moves by competitors.

Project developments and changes of course are not linked to year ends. It is impossible for companies to make their projects fit neatly into tax periods. Indeed it is very often a challenge to decide when a project actually starts and finishes as

there is a tendency for one project to meld seamlessly into the next stage. Most companies, however, are content to hand the information required for making R&D tax credit claims over to their accountants and let them sort out the intricacies of what fits into which tax year.

The award of a grant can unlock almost instant action. Respondents talk of a period of limbo while awaiting the outcome of an application, during which nothing can go ahead. They often describe this period as longer than anticipated, and sometimes longer than promised by the Regional Development Agency. Once notification is received, they feel an urgent need to make decisions and take action quickly, especially if the project has been on hold for a while.

9.7 Project length

In general, for SMEs, project length is in the range of three months to two years, though there are plenty of small pieces of work which are counted in person days. Larger companies, or SMEs with long-term grants, can afford longer projects and periods of five years to bring a product to market are not unusual.

The natural tendency is always to underestimate the time which will be required to complete a project and many respondents recognise that their forecasts are very often too short. In addition, since one project will often spawn at least one other, there is not always a definite start and end point for each.

Respondents find it challenging to provide this sort of information for grant applications and are concerned about the implications of getting it wrong.

“The most irritating thing was that they were looking for five year projects and I am not sure how anybody in this financial climate does this. I mean did anyone predict the recession? I think asking for this wastes everybody’s time and inevitably they are going to get misleading information.” FD of small manufacturing company

9.8 Stages of decision-making

The order in which various questions tend to be considered, particularly in SMEs, appears to militate against the capacity for R&D tax credits to have an effect on which R&D projects are conducted.

The flow chart in Figure 1 shows the typical stages which may take place, and demonstrates that it is only at the end of the process that financial factors usually enter the discussion. R&D tax credits, therefore, are very unlikely to be linked to the project to which they relate, because of the retrospective nature of the system.

It is notable, though, that in the longer term, companies which regularly claim R&D tax credits tend to develop confidence that their claims will be accepted and will provide an income stream which can be re-invested into R&D projects in the future. Thus the general 'pot' of money available for R&D is seen by many companies, particularly SMEs, to be larger.

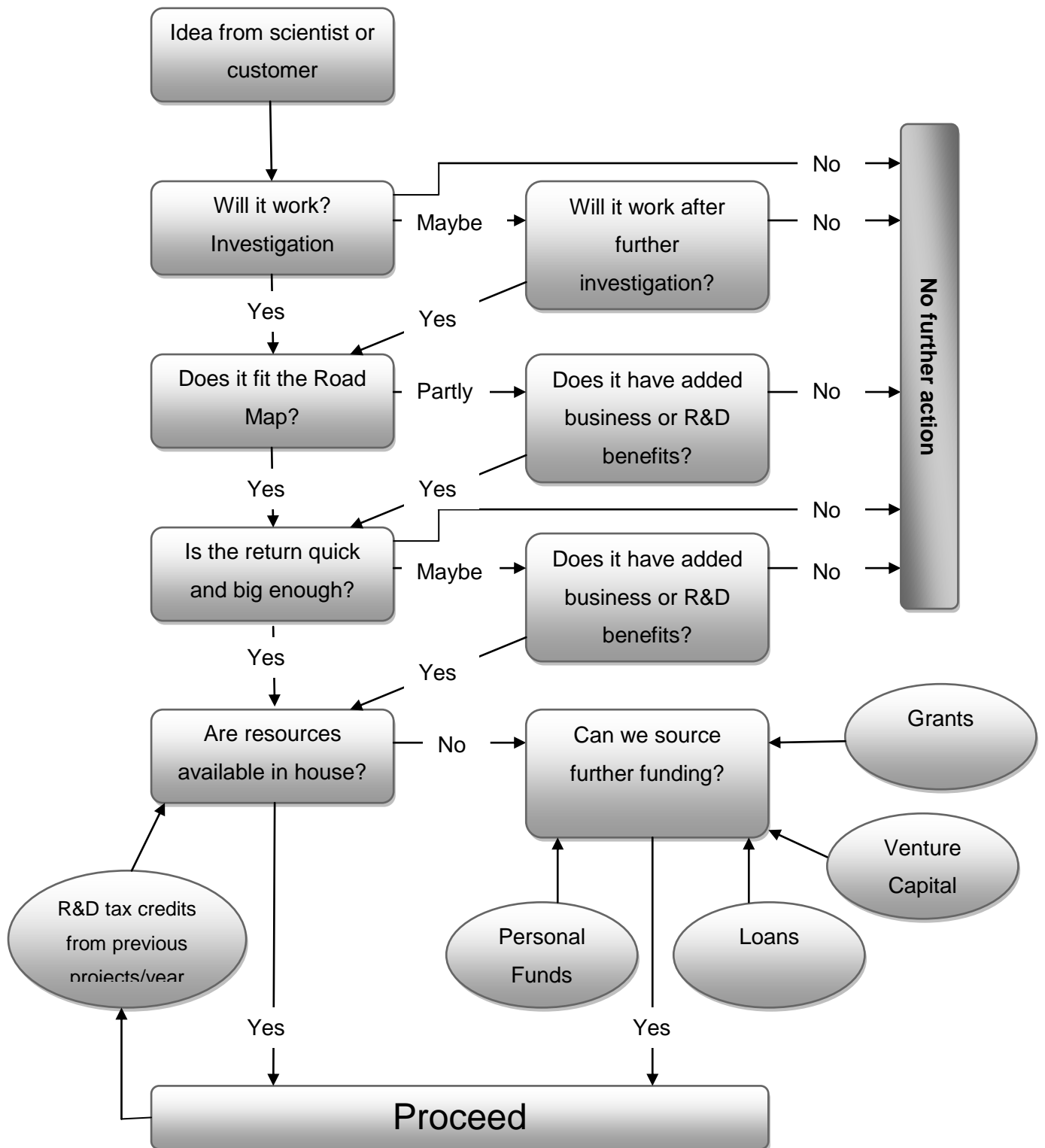


Figure 1 - R&D decision making flow chart

10 Applying for R&D tax credits

This section examines the way companies make the decision to claim R&D tax credits. Generally, it is hardly seen as a decision as it is so obvious that the claim should be made. Very often, those engaged in R&D are not personally involved in making the claim since it is handled by others, usually the finance department or the accountant, who also decide under which scheme to claim. Respondents report that the provision of the required information can be challenging at the start but soon becomes part of a routine and can provide a useful discipline. End of year accountants play a major part in giving advice and processing the claim but do not always provide accurate information.

10.1 Advice and support

The initial suggestion to claim R&D tax credits very often comes from companies' accountants, though occasionally from Business Link or other consultants. Although a few respondents know that their claims are now being handled by HMRC specialist R&D units, there was no mention of any proactive work from these units to encourage claims. Frequently, the suggestion comes at the point when new accountants are appointed, or it is raised during the tender process by candidate accountancy firms. It is very common that companies have failed to claim for several years because they and their previous accountants were unaware of the system. The level of knowledge amongst these professionals is very inconsistent.

"I am not particularly au fait with the process itself because I only have the one client who actually claims the credit. They are already pretty knowledgeable about it, so it was just a case of us taking their documents and processing the claim at the end of the year." - partner in medium sized accountancy firm

“I would have to get the books out because I wouldn’t be able to give the client a straight answer [if asked for R&D tax credit advice]” – partner in small accountancy firm

There are numerous anecdotes about incorrect advice being given and advisors putting their own interpretation on HM Revenue & Customs guidelines.

“Our accountants give the impression that this is an area that HMRC are not keen to support.” – FD of medium sized engineering consultancy

During the interview process, many respondents tried to obtain advice from the interviewers to confirm or deny what they understood.

Areas of uncertainty include:

1. Whether and how much development work falls within the HM Revenue and Customs definition of R&D⁴.
2. Eligibility of areas of expenditure – it does not seem to be clear to respondents which work they may include in the claim, especially management and support staff time, building overheads and capital equipment
3. Claiming for both grant and R&D tax credits for the same work – the difference in the way the SME and large schemes work alongside grants is not well understood
4. Retrospective claims for previous years – some respondents believe that claims may only be made for the current year, whilst others have been advised to claim retrospectively, particularly when new advisors have been appointed⁵

⁴ The definition used is set out in the DTI Guidelines on the meaning of R&D for tax purposes (2004)

⁵ Following a revision to the rules, companies can claim retrospectively for the past two company accounting years – previously it was for the previous six years.

5. Eligibility for SMEs under the large scheme – the terminology appeared to cause confusion as SMEs are unsure why they are applying under a large company scheme⁶

10.2 Providing the information for the claim

10.2.1 Link between R&D and finance

In order to make R&D tax credit claims, those carrying out the R&D work need to generate information about time spent and other costs incurred on each project. In smaller companies, this information is typically gathered from the scientists by the MD and passed either to the finance director (if such a person exists) or direct to the accountants usually at the end of the year.

“The main problem is that we don’t see any of the qualifying material before the end of the year.....the tax credits themselves make no difference to the actual R&D process because they are claimed at the end of the year.” - accountant in small firm

“The first thing we know about the projects is when the books arrive on our desk at the end of the year so there is very little scope for us to influence the methodology and the recording of the work that is being carried out. ” - R&D partner in medium sized accountancy firm

In larger companies, the project manager is usually responsible for providing the information to the finance department.

⁶ SMEs can apply under the large company scheme in certain circumstances where they cannot claim under the SME scheme. The SME scheme is a notifiable State Aid – i.e. it has to be approved by the European Commission – and it is only possible to receive one notifiable State Aid for an R&D project. However, it may be possible in addition to claim for certain costs under the large company R&D tax credits scheme (which is not a notifiable State Aid).

In both small and large companies, that is normally the end of the involvement of the R&D department in the R&D tax claim, even in the very few cases where queries were raised by HM Revenue & Customs. There is little, if any, further communication on the subject between the finance and the R&D functions. This gulf appears to widen with the growth of the company. In particular, respondents noted that they rarely, if ever, heard whether the claim had gone through.

“I don’t know if we get tuppence or £2m” – MD of medium-sized company

This results in a degree of uncertainty over eligibility. Ironically, one MD is even in the process of recruiting an R&D tax specialist to handle his claims, despite never having had any queries raised over the past five years, because he is concerned that it is too easy and does not feel secure that the claims will not be rejected in future.

10.2.2 Gathering the information

When they first start to make claims, many companies find it hard to gather the necessary information. It requires the imposition of a new discipline, particularly on the scientists or engineers themselves, and often encounters resistance.

In most companies, however, there are already at least some records based on job numbers, and the system merely has to be extended and refined to cope with providing the information which is needed for claiming R&D tax credits. As time progresses, the system beds in and the routine of data gathering becomes easier and more acceptable to the scientists.

*“It’s taken us a bit of time to learn about the timesheets and to also separate quality and enhancement of a product from pure R&D. But the process is in place now and we have had visits [from HMRC] so it all runs smoothly now.” –
FD of cleaning products company*

Where MDs take time to explain to the scientists or engineers the financial imperatives behind collecting the information, they find there is increased willingness to help. If the scientists can see that the extra funds which the R&D tax credit could bring could represent someone’s job, this provides an incentive to ensure records are kept and submitted accurately and on time.

“At the start, it was difficult to persuade people to keep the records needed to prove the R&D spend - scientists generally hate keeping timesheets. But now they are used to it and don't question.” – FD of small digital electronics company

There are sometimes additional benefits from this discipline. Some respondents, particularly founder MDs, acknowledge that although they may initially have viewed the recording task as a chore, they now find the information useful for management purposes.

Respondents are accustomed to providing the information for the finance department or accountant, and assume that claims are being made annually. In several cases where it appears from HM Revenue & Customs data that there have been sporadic claims only, the absence of a claim for every year puzzled and concerned respondents who wonder why they have bothered to supply the information if it is not used for a claim.

10.3 Hardly a decision

For most companies, when the opportunity to claim R&D tax credits is offered, there is hardly a decision to take.

“Any tax credit or grant that we get is a bonus, but we don't build our business plan around getting them. It's a bonus. If we can't afford something without getting any support, then we shouldn't be doing it. [...] We do it because we have to do it for the business.” - MD of small engineering company

“We tend to view them [the tax credits] as it is nice when we get them, but we don't run the business on getting them.” – MD of small manufacturing company

Those who come across R&D tax credits quite late on are concerned that they may have missed out in previous years and resent the failure of either “the system” or their advisors to raise the subject earlier. If the money is there to be claimed, companies will happily claim it, even though it does require some effort.

Companies rarely make any link between applying for an R&D tax credit and the decision to go ahead with a particular R&D project. In fact, because of the timings of

tax years, it may well be that the work which is the subject of a claim has been completed months before the claim is made.

The uncertainty over whether a claim will succeed and the retrospective nature of the R&D tax credit system combine to result in there being no real opportunity for the decision to embark on an individual piece of R&D work, to be influenced by the availability of a tax credit.

“... [We] don't get formal notification that the credit has been approved so [we] could be doing the wrong thing and be open to the revenue clawing back the money.” FD of medium sized engineering consultancy

10.4 Which scheme?

The existence of both the SME scheme and the large company scheme appears to puzzle some respondents, both those in the finance function and those conducting R&D. Very few respondents can quote the R&D tax credit percentage rates for either scheme and although a few are aware of differing rates of credit available under the two schemes, most said that they did not know about this and their accountant would deal with it. Several SME respondents whose claims are being made under the large company scheme could not understand why this should be so – it appears that either there is a degree of misunderstanding amongst professional advisors or they are not explaining to those concerned the reason for claiming under the scheme they have chosen.

11 Applying for a grant⁷

This chapter explores companies' decisions to apply for a grant and their experiences of the process. Third parties are very important in guiding companies towards the grants and in providing assistance with applications. In general, the advice and support provided is helpful and effective but many respondents nonetheless find the whole procedure time consuming and onerous. In particular, ongoing reporting during the period of the grant is often described as tedious. The requirement for match-funding causes difficulty for some companies and may be off-putting. Some companies acknowledge that they may "tailor" a project to suit grant criteria and may divert from the company's overall goal in order to secure the funding.

11.1 Advice and support

As with R&D tax credits, third parties are very important in providing information about the availability of grants. These third parties include accountants and auditors, Business Link, the Regional Development Agencies and specialist consultants. Of those respondents who hear about grants through such third parties, most are content that they are well informed.

There are plenty of companies, however, who are unaware of the grants. During the interview process, numerous respondents resolved to research this opportunity, having previously not known of their existence. It is clear, therefore, that the information could be more widely disseminated, both directly to companies conducting R&D, and to third parties.

⁷ The research focussed on Grants for R&D, though Collaborative grants were also explored where this was relevant. Throughout this chapter as in the rest of the report Grants for R&D are referred to in shorthand as 'grants'.

The application forms are normally completed by the senior person involved in the project. In a small company, this will often be the MD, while in a larger company, the project manager is usually responsible for the task.

Applicants often feel they need outside assistance to complete the forms. This may well be provided at little or no cost by Business Link, or by the Regional Development Agencies and most respondents describe the support as valuable.

“The support of Business Link was a great help as he [the advisor] was familiar with the application process and he could also be objective about the application and ask questions we may not ask ourselves. I don’t think we would have got it without that help.” – MD of software consultancy

There is a perception that there is an art to getting it right and respondents talk of the importance of using the correct terminology. Several companies tell anecdotes about applications being rejected because of the use of the wrong wording; after advice from the grant professionals, a fresh application submitted with the right terminology often succeeds.

Some respondents assume that applying for a grant will be hard work and that they are unlikely to qualify, so rule out the possibility.

“It may be only hearsay, but I imagine the paperwork is off-putting and it takes lots of time and effort [to apply for a grant]” – founder MD of educational software company

11.1.1 Specialist grants consultants

It is not uncommon for companies to retain a specialist grants consultant to handle the application. Usually, these consultants charge a percentage commission, with figures of ten to twenty per cent of the value of the grant being the norm. Companies who use these consultants appear to accept this payment as quite reasonable, since they feel ill-equipped to make the application themselves, or simply do not have the time.

11.2 Timing

Grant applications are often made when the company starts, and are, in effect, its lifeblood. Many respondents were clear that without a grant, their company would not have come into existence.

For more established companies, the application for a grant is usually made at a time when there is a project which cannot be funded internally and for which there is no immediate customer willing to pay. Work on the project will wait until the application process is complete and the decision to award or refuse a grant is made. Some respondents find this time excessive as they cannot start work without prejudicing the application. During this period, the competition may be active and the waiting time can put the company at a considerable disadvantage.

“When it [the grant process] takes too long, the chance for innovation has changed or disappeared.” – MD small refrigeration company

11.3 Match-funding

The fact that the grants will meet only a proportion of the project cost does cause some difficulties. Companies sometimes struggle to obtain the match funding and tell of instances when the grant could not be taken up because they did not succeed. Sometimes, though, the offer of a grant does mean that other potential investors or lenders are more willing to come on board as they may have increased confidence in the viability of the project.

The majority of respondents who have received grants talk of receiving 35 per cent, but some say they received 50 or 60 per cent.

“[Finding the] match funding strains the cash flow. Is the answer smaller grants with less strings attached?” – MD specialist defence engineering company

Some companies suggest that interest free loans could be useful instead of grants and view them as a more efficient way for the government to support R&D.

"I don't think the government should offer grants. They should offer interest free loans instead and recover some of the money on profits of sales, even if it takes 15 years. Some will fail and the money will be lost, but others will pay back into the system. This should also mean that they can fund more risky ventures" - Director, small energy engineering company

11.4 Time and effort

Many grant applicants do not find the application process unreasonably demanding. They accept that there needs to be a proper investigation of the proposal before government money can be invested in the project.

"We did it all ourselves and the process was onerous but that's what you would expect if someone is going to give you £100k." – FD of medium-sized hygiene products company

"It's not easy [to apply for a grant], but then you don't want it to be too easy. You have to give a lot of information and it takes time to get it together" – MD of small engineering company

Others see it as excessively time-consuming and onerous and report that having applied once they would not lightly repeat the experience.

"There are too many conditions and it takes too long" – Director of small engineering company

"The bureaucratic and time consuming application process - it takes well over a year to get the cash - means that this is unlikely to have an influence [on where to locate a plant] in future."- Finance Director of large international engineering company

The ongoing reporting requirements are sometimes described as tedious, with an apparent need to justify every penny spent. This administration diverts valuable time away from the project itself and is resented.

"We'd look very carefully at the commercial terms and consequences before committing to a grant again. The way they are deployed is not helpful." MD of high tech engineering company

Attitudes to the grant process are to some extent related to the size of the grant in question. Those who have received more than one grant can compare the effort invested in each. For significant amounts of money, the effort may be described as worthwhile, whereas for a smaller grant, it may be disproportionate.

"For the second one [a grant of £20k] the effort exceeded the gain – it would have been easier for me to go out and sell some consultancy services." - founder of high tech measurement company

11.5 Diversion from strategy

In as far as companies do have any sort of strategy or Road Map for R&D, taking advantage of the opportunity to apply for a grant may require some diversion from the straight path towards their overall goal. Companies may be willing to compromise in order to meet the grant criteria, for the cashflow benefit.

A project may therefore be tailored to fit the grant requirements. In one extreme example, the project was designed to fit the grant criteria:

"Everything about the project is designed to spin the grant" – MD of R&D consultancy

But in most companies, the subject of the grant application is unlikely to be allowed to stray very far from what the company would otherwise wish to do. This compares to the way that a company will agree to undertake R&D which may not be at the top of their priority list, to meet a customer's requirements because they are guaranteed a sale. A degree of diversion is acceptable so long as the work is still moving in the right direction.

12 Behavioural effect of R&D tax credits

This section examines the way that R&D tax credits affect the behaviour of those making decisions about R&D. Almost universally, the credits are described as a bonus. They also serve an important purpose in sending messages about government support for R&D in this country and creating a positive climate. It is clear, though, that they have little if any effect on decisions to conduct individual pieces of R&D. This disconnect appears to be caused by the timing of claims and the gap between R&D and the finance function. In most companies, however, there is a belief that the overall amount of R&D is increased as a result of the R&D tax credit system, though it is difficult to obtain quantitative evidence of this effect. Most companies who have established a routine of claiming gain confidence that this money will be available for re-investment in future R&D projects so in the longer term see it as an increased 'pot' for spending on R&D. There is also a cashflow benefit, and an accelerant effect. Some respondents also say that R&D projects with a greater risk profile may be able to proceed because of the credits.

12.1 Disconnect with individual projects

There is no evidence that the availability of R&D tax credits plays any part in the initial decision to go ahead with an individual R&D project. Most respondents are quite specific in stating that tax credits have no effect here:

"If it needs to be encouraged by a tax credit, then it shouldn't be done [...]. If we are trying to justify a piece of R&D, the tax credit would not be a part of our discussion." – MD of small software company

"The [tax credits] are not driving this business at all." – FD of autonomous division of large property services company

"If it was a poor business decision to do the R&D, the value of the tax relief would not be enough to compensate". – MD of the same property services company

“If we can't afford something without getting any support, then we shouldn't be doing it. [...] We do it because we have to do it for the business.” - MD of small engineering company

Decisions on pursuing specific projects are taken by R&D specialists and the management team involved. The decision to claim tax credits is made in the finance function and it is normally taken after the project has started, or even finished.

12.2 Overall budget

Most respondents in SMEs, however, believe that their overall spend on R&D is higher as a result of the R&D tax credits. Although many of them do not actually see the credit appearing specifically in their budgets, they are clear that if the credits did not exist, there would be an effect:

“[Without the credits] we would simply have a smaller R&D activity – it would slow our growth. It would make quite a big difference.” – FD of digital imaging company

“I don't think we could continue in the way we are now [without the tax credits] – within a year or two we'd be struggling. The customers would catch up with us too quickly [by doing their own R&D]” – MD of the same digital imaging company

“Without them [the tax credits] we wouldn't be considering some projects and we'd have one or two fewer people in R&D” – founder of small engineering company

“It [the tax credit system] makes us more inclined to do our own R&D as opposed to just looking for consultancy. Without it we probably wouldn't do any of our own work unless we got a grant.” – MD of small firmware company

“We have to do R&D but in the end it [the tax credits] will affect how much R&D we can do. Currently it just makes the accounts look nice.” Founder of small loss-making electronics company

“Tax credits influence what we do as it gives us more profits to invest in the business. Last year the R&D spend matched the profit in the business. We don't have massive retained profits in the business so the tax credits are essential. We are not a funded business - everything we do comes out of our profit. The only sources of funds that we have for R&D are from profits and grants.” – Owner of small manufacturing company

In larger companies it is less clear whether the tax credits are allocated back to the R&D department. Some are specific in stating that funds are not linked back:

“It would be wrong to suggest that there is a one to one relationship between the precise credit given and the amount re-invested or even a direct link.” – tax manager, large manufacturing company

In one very large company in particular there is no need to reinvest the sum as the R&D department has a very adequate budget and if a good case is made, the R&D will go ahead.

“If things were tighter, I'm sure they'd be claiming the credits back for the [R&D] department, but at the moment, they don't need to.” – Finance Director of large pharmaceutical multinational

But most large companies do indicate that there is at least an indirect effect on the overall budget for conducting R&D.

“The tax credit helps to reduce the costs of R&D so it does have the effect of allowing us to do more.....There is a central fund that the money clawed back is fed into and then the monies are distributed to the companies within the group that need them.” – Head of R&D, utility company

“There are guidelines from head office that 10 per cent of turnover is the guideline on discretionary spending and R&D spending would be included in that.so if we have something that we really want to explore and look for more funding on we can make a case for it. That is where the tax credit would come in because we can then argue ‘Well look guys you are going to be able to claw back some of the spending with the tax credits that are available.’ To be honest other than that it doesn't have a lot of influence. We don't really look at the

spending with the tax credit in mind. We have to be able to afford to do the work in the first place. Where it does come in is when we are 'selling' a piece of work to head office and looking for more funding." – Financial Controller, major defence contractor

12.3 Higher risk projects

Some companies feel that because of the R&D tax credits they are able to take on R&D with a higher risk profile. Although the relevant credit is very unlikely to be linked directly with the decision to undertake that specific project, the climate is somehow warmer towards projects which might otherwise not have been accepted.

"It [the tax credit system] reduces the risk - if we end up in a marginal situation it softens the blow." – Chief Financial Officer in advanced imaging company

"I may be more inclined to say yes to something a scientist wants to do [because of the tax credit system]" – FD of small engineering company

"They sweeten the commercial risk a little bit and make certain projects viable." – MD of small company working on alternative fuel vehicles

12.4 Cashflow and accelerant effect

After companies have made claims for a year, the impact on the cashflow position is very helpful. Not only can the project itself progress, but the likelihood is that it will reach a position where it can begin to produce a return sooner. In turn, this revenue can be reinvested in R&D and the cycle continues. Respondents speak positively about the tax credits "*priming the system*" and "*oiling the wheels*".

"It [the tax credit system] gives you the opportunity to do what you want now." – FD, small engineering business

"Everything that happened would have happened anyway, but it would have been a lot slower. Collectively things would probably have taken a year longer. A year is a year's sales which could be £1m" – MD, design SME

12.5 Outsourcing abroad

Most companies are keen to do the R&D in house rather than outsourcing abroad, at least partially for control and security reasons. But when budgets are tight, there is a compelling reason to conduct work overseas where salaries for, in particular, software development specialists are quoted at levels of around a third to a quarter of UK rates. Some respondents believe that the in house option is rendered more attractive by the R&D tax credit system, which makes a move towards redressing the cost balance. There appears to be a perception in some companies that the R&D tax credit applies only to work conducted in the UK.⁸

In line with a company's overall priorities, the decision on where to conduct R&D is influenced by the availability of good resources. Skilled people and the right expertise are the most significant factors. There are many instances of R&D being conducted abroad by one key individual simply because s/he happens to live there and is unable or unwilling to locate nearer to the company.

"One of our software developers is based in Poland – it works fine. He's got very specialist skills and he's not going to move." - founder of small high tech manufacturing company

12.6 Bonus

The R&D tax credits are described regularly in terms of a bonus or a prize at the end of the year. They are viewed as "nice to have" but very rarely as crucial to the existence, growth or development of the company, or to the continued pursuit of R&D.

"It's money, but I don't think they make a lot of difference. It helps us, we deserve them [laughs], but if I were government, I would not give them, I would cancel them and put more money into the grant system. Tax credits don't influence how

⁸ Where R&D is subcontracted to another concern based abroad, providing all other conditions are met there is no requirement that the R&D has to be carried out in the UK.

you carry out R&D. They are a nice present that you get later." – MD/founder of small manufacturing company, have received grants and tax credits

"They're a nice prize to get at the end of the year." – MD of small engineering company

"The tax credits are advantageous in that they reduce the impact on the bottom line. But as far as factoring them in to the decision making that we conduct I don't see them making any difference." - CEO of large security products company

12.7 Positive climate for R&D

For large companies, the R&D tax credits themselves, whilst appreciated, are only one of a wide range of factors in decision-making about where to conduct R&D.

"Most other countries have similar tax incentives to the level that England provide. The trouble is that a manager is not going to build a centre somewhere just because of those incentives. The tax credits are just not big enough to make that much difference." – Director of government affairs, major multinational

"There is no one single factor which determines where we carry out our research and development activities. The availability of [R & D] tax credits is one of the important aspects we consider, alongside a number of other factors including availability of skilled engineers, overall cost of the R&D, value of the underlying intellectual property and proximity of customers" – Tax manager of major aerospace company

However, the message that the tax credit system sends about government support for R&D is important:

"The messages are as important as the reality" – Director of major pharmaceutical company

"If you withdraw them [the tax credits] there might be the perception that the government isn't interested [in R&D] any more. It would be a negative." – Director of major multinational

Factors identified by respondents in large companies as significant in creating a positive climate for R&D in UK include

- Quality of universities
- Skills of researchers
- Links to the research councils
- Regulatory environment
- Healthy SME base
- Funding for R&D

Government support for R&D is an important element:

“In many ways the [tax credit] benefit provided has a multiplier impact because it is one of the factors that gives us confidence that the UK is a good place to carry out R&D. Without the benefit, marginal decisions could go the other way and long-term capability and skills could be lost forever. Having a predictable benefit such as the tax credit, which one can build into our costings with confidence, is clearly an advantage to ensuring the work is carried out in the UK.” – Tax manager of large aerospace company

Having a healthy SME base is of strategic value to large companies. They need to collaborate with small businesses, purchase goods and services from them and even acquire them. Respondents in large companies spoke frequently of the importance of government support in creating a thriving, vibrant SME sector, where innovative and exciting R&D is carried out.

“SMEs are crucial - without them we are dead in the water” – Director of major pharmaceutical company

13 Behavioural effects of grants

This section examines the effects that grants can have on companies conducting R&D. Grants are crucial to many start-ups and vital in the early stages of many SMEs. The business disciplines imposed by the application process can be helpful to the management of the company. The award of a grant may exert a leveraging effect on other funding and is beneficial in terms of kudos for the company. Staff recruitment and retention is often improved as a result. R&D rarely goes to waste and may be usable on future projects. Networking, which often arises through the third parties involved in the grant process, can open up opportunities for further work.

13.1 Start-ups

For many small companies, their very existence depends on one or more grants. Although they may have some other sources of funds, the grant can give them time to progress the original idea without the pressure of having to pay interest or satisfy investors. Numerous small companies acknowledge that without a grant, the business would simply not exist.

“[Without the grant] I couldn’t have started the company.” – MD, founder of electronics engineering company

13.2 Individual projects

In a similar way, many respondents in more established companies can point to individual projects which would not have progressed without a grant. For those who make their first application for a grant, this can be a revelation as it means that projects can progress before internal resources can be made available:

“Traditionally, if we couldn’t afford to do it, we haven’t done it.” - grant recipient, MD of electrical engineering company

“We wouldn’t have been able to do this big project without the grant. Absolutely not.” – MD of software consultancy

Some companies talk of taking on projects which, without a grant, they would not have considered because its risk profile was higher:

“The grant is not a key to success but it does underpin it. Without the grant we would have probably been a lot more cautious and perhaps done less.” MD of small manufacturing company

13.3 Leveraging effect

The award of a grant can have a helpful effect in leveraging further funding and involvement of other partners. Venture capitalists or other investors see that “the government” has done the due diligence and is prepared to put money into the project, so their confidence is increased. In addition, the existence of a grant spreads the risk for other investors.

“Grants are a great source of additional funding so of course they are factored into any decisions we make.... and as proof that the business planning and strategy has already been done.” – Venture capitalist

“The business relied on the grant [£115k] for essential funding [which was] £400k of equity from private investors” - Director, small manufacturing company

“The grant is key to our business model. Without it the development would be harder, slower and less professional. This in turn would make it harder to commercialise and less impressive to partners..... we would not have been able to access the lab which has been crucial to [our]image.” MD of R&D consultancy

13.4 Imposition of business disciplines

The grant application demands the preparation of documents such as business plans and forecasts which some grant applicants say they would not otherwise have produced. Whilst the effort involved is considerable and largely viewed as hard, it is quite common for the applicant to recognise it as worthwhile in that the disciplines thus learnt become a habit which is valuable for managing the company. This is particularly the case in SMEs where the founder/MD has no history of running a business. In addition, the documentation can be used when attempting to obtain other funding.

“There was lots of planning required, more than I would have done otherwise. Now it has become ingrained in the way I work.” – grant recipient, founder of high tech engineering company

13.5 Effect on morale

13.5.1 Kudos

Being awarded a grant for R&D is seen as a significant achievement, an endorsement of the project and the company's work. Some respondents speak of the kudos it brings in terms of enhanced reputation and increased status.

“It [the award of a grant] shows we've gone through the process, we're serious about R&D”. – MD of software design SME

“It [receiving the grant] increased our [his own company's] overall credibility in the market place.” – Consultant providing R&D services to SMEs

In addition, if the award of a grant facilitates work which is successful, it can lead to more work and growth for the company.

“It [the success of a grant-funded project] means you get known and publishers seek you out and want you to work for them.” – MD of games development company

13.5.2 Staff recruitment and retention

Scientists are always keen to work on exciting and creative projects, rather than the routine tasks which are often required for incremental R&D. A grant can allow the company to carry out more innovative work which has the potential to attract and retain high quality scientists who might not wish to work for a company where there is little cutting edge R&D being conducted.

“Without the grants, it would hamper our entrepreneurial ideas and staff retention would be worse.” MD of electronics company

“[Because of the grant] we can do more interesting R&D so job satisfaction goes up. It alters the balance. [The job] becomes more attractive to the best people” – Chief Technology Officer of HR systems company

13.6 Use of R&D

Even if a grant-funded project does not progress as expected and is never in fact exploited as originally planned, respondents report that the R&D is rarely wasted. The same applies to projects which are a diversion from the strategy. Parts of the work may well be of use in future projects, and scientists frequently learn lessons which are applicable elsewhere.

“Our first grant-funded project wouldn’t have happened without the grant. It hasn’t been commercially exploited yet, but elements of the project are now being used in other products. We wouldn’t have done our second [grant-funded] project either, because it was in a tangential area, but the IP is now used in our current products.” – MD of digital imaging company

13.7 Networking opportunities

When companies are awarded grants, they appear to become part of networks of companies undertaking R&D, centred around the Regional Development Agencies, Business Link or other similar organisations. The connections they establish can lead to new work and other opportunities and invitations to collaborate, sometimes on

much larger projects. For R&D scientists and companies, being known in the field is valuable, both psychologically and financially.

“[Because of the first grant] we were invited last minute to replace a large company who couldn’t fulfil the requirements on a TSB grant, so we bypassed the initial stages. Now we have the experience, we are the lead on the next TSB project.” – Founder and MD of photographic electronics company

“As a result of getting the grant we have now been invited to be part of a group of seven companies and a university who are applying for European funding. We think that they heard about us and had more faith in us because we had received a UK grant....We have had several spin off enquiries since we received the grant.” – Consultant providing R&D services to SMEs

“Getting the grant has given us some kudos and air of reliability plus networking with others who have received the grant has been useful. It has led to business relationships that otherwise wouldn’t have happened.” – MD of small R&D company in products for offshore oil and gas exploration

13.8 Message of government support

The positive message which government sends by the provision of grants for R&D is important both to the grant recipients and to the large companies which tap into the SMEs.

“Britain needs to invest in this. Don’t get rid of the credits and grants as that would indicate that the UK government is just not interested in this type of industry and you will see people leaving for countries where they are” – MD of small electronics company

“The project and therefore the grant enabled us to stay at the top end and forefront of what we do and offer. It’s important to us to keep that leadership position and to continue to meet the needs of the very large corporates who are a large part of our customer base.” MD of software consultancy

14 Conclusions

There is strong evidence that government support for R&D does make a difference to the amount of R&D that companies conduct in the UK. Grants allow companies to conduct R&D projects which they would otherwise have been very unlikely to pursue (sections 13.1,2,3). Although companies rarely make any direct link between an R&D tax credit and the project to which it relates, tax credits do appear to increase the overall budget available for R&D within the company (section 12.2).

Most companies engaged in R&D see it as a vital, often intrinsic part of their work (section 9.1). As such, they do not need encouragement to conduct more; they already carry out as much as they can afford and are keen to do more. Government support, therefore, is viewed as enabling, rather than motivational.

The process of making decisions about R&D is considerably less formal than may previously have been understood (sections 9.3,4). Those conducting R&D seem to be empiricists who make decisions in the same opportunistic and entrepreneurial way that they go about their R&D work. Decisions are based far more on gut feel and personal inclination than on commercial considerations.

Most of the R&D respondents know little about the process and progress of tax credit claims. In many of the companies interviewed, there appears to be minimal communication between the finance function and the R&D department on the subject either at the time the claim is submitted or afterwards (section 10.2.1). The result is that decisions on R&D projects are usually made without factoring in the benefit of any potential tax credit. However, once the routine of claiming is established, the company tends to gain confidence in the likely availability of this funding stream and begin to rely on it as part of the budget for reinvestment in future R&D work (figure 1).

This means that the capacity for HM Revenue & Customs and BIS to have an influence is restricted to the points at which financial decisions have to be made, which is likely to be at the very last stage of the decision-making process.

The influence of HM Revenue and Customs and BIS is also dependent on companies being aware of both the R&D tax credit schemes and grant schemes, and how to access them.

It is doubtful whether the difference between the percentage rates of the large and SME tax credit schemes has any material influence on decisions. The important element is that companies receive a financial benefit for conducting R&D; the relatively small difference between the two rates is unlikely to have a large effect. In addition, the existence of two schemes adds to the complexity and may be off-putting (section 10.4).

Alongside the monetary value of the government support, the message sent by the system of R&D tax credits and grants is important to companies engaged in R&D (sections 12.7, 13.8). Any attempt to reduce their availability would be interpreted as a statement that government no longer values the contribution of R&D in this country.

The effect of R&D tax credits and grants for R&D for each of the typologies described in this report are summarised in the table 2.

Table 2 Effect of tax credits and grants for R&D

	R&D tax credits	Grants
One person, one product	<ul style="list-style-type: none"> • May not claim 	<ul style="list-style-type: none"> • Crucial to existence
Small research-based business	<ul style="list-style-type: none"> • Useful bonus may increase amount of R&D conducted 	<ul style="list-style-type: none"> • Crucial to individual projects
Established SME, suite of products	<ul style="list-style-type: none"> • Regular claims good for cashflow • May increase amount of R&D conducted 	<ul style="list-style-type: none"> • Important for individual projects
High tech, high ambition	<ul style="list-style-type: none"> • Nice to have, but not factored in to decisions 	<ul style="list-style-type: none"> • Vital to progress of company
Large company, separate R&D function	<ul style="list-style-type: none"> • Political statement of support for R&D in UK • Little direct impact on amount of R&D 	<ul style="list-style-type: none"> • Important as element of support for economic environment, especially SMEs • May have grant as part of collaborative project

15 Appendices

15.1 Methodology

Overview

We conducted a series of qualitative interviews with managing directors, finance directors and the directors/managers responsible for R&D in 69 companies which undertake technology or science-based R&D in the UK. The majority of interviews were conducted face to face; however, where this was impractical or where additional interviews were considered necessary to obtain a good understanding of the organisation's decision making processes supplementary interviews were conducted by telephone. Fieldwork commenced in October 2009 and was completed in March 2010.

The sample was not constructed to achieve a statistically representative sample and the reader should bear this in mind when interpreting the results. Whilst it is not possible to extrapolate to draw conclusions for the population as a whole, the research does provide insight into the decision making behaviour of particular companies conducting R&D in the UK and we believe the common themes are indicative of behaviour among similar companies in the market.

This section provides a detailed overview of the methodology and outlines the profile of the organisations that participated in the research.

Sample structure and rationale

Prior to specifying the sample structure for the study we analysed the following information provided by HMRC and BIS:

- HMRC provided a sample of approximately one in ten organisations who have made claims as far back as 2000-01. Organisations were selected at random. Organisations and claims currently being investigated by HMRC

were excluded from the sample to ensure that confidentiality would not become an issue.

- HMRC also provided supplementary information from their own analysis of R&D tax credit claimants in terms of size/sector etc.
- BIS provided a database comprising all grants awarded prior to October 2009.

HMRC also identified approximately 500 organisations that have responded to the BERD survey to indicate recent R&D expenditure, but had never made R&D tax credit claims.

We used the outcomes of our analysis to inform the sample structure. The following factors were considered in developing the sample structure for the study:

1. We decided that respondents from organisations last claiming R&D tax credits and/or receiving a grant prior to 1st April 2007 would be unlikely to provide an insight into the influences of tax credits and grants on R&D decision making as:
 - a. It was unlikely that all of those involved in decision making when the organisation claimed tax credits or received a grant would still work for the organisation
 - b. Even where those involved in decision making at the time still worked for the organisation, it would be difficult for them to reliably recall their decision making processes and their views might be affected by the outcome of the R&D.

Only those organisations that have benefited from public support since 1st April 2007 were therefore included in the sample of organisations claiming R&D tax credits and/or grants.

2. We felt that behaviour would vary significantly according to the size of the organisation. The decision making processes of large organisations are likely to be more complex and involve more people than those of SMEs. R&D spend is also likely to be greater in larger organisations. Furthermore, some

large organisations will be multi-nationals and have the option of conducting R&D in other countries.

The majority of organisations claiming tax credits are SMEs⁹. We therefore decided to split the sample by organisation size and over-sample large organisations claiming large business tax credits to ensure that we were able to explore the behaviour of large organisations in sufficient detail.

3. Based on our analysis of the databases provided by HMRC/BIS for the purpose of this study, we estimated that 200-250 organisations had received R&D tax credits and an R&D grant in the last 8-10 years (though not necessarily in the same year).

This suggested that a significant number of SMEs who are awarded grants and may be eligible for large business tax credits are not claiming tax credits.

We therefore decided to include in our sample a number of organisations that had claimed tax credits since 1st April 2007, but who had also received an R&D grant at some stage in the last five years.

4. The majority of those receiving R&D tax credits are based in the business service or manufacturing activity sectors. In 2006-07 approximately three quarters of claims and over four fifths of the total support by value went to organisations in these two sectors.

It is likely that the majority of those receiving grants for R&D have a similar profile in terms of activity sector¹⁰.

We therefore decided to ensure that the activity sector profile of our sample broadly reflected the profile of claimants since 1st April 2007, but not to

⁹ The exact number is not known; however the number of organisations claiming SME R&D tax credits (which can only be claimed by SMEs) is approximately three to four times the number of organisations claiming large business R&D tax credits.

¹⁰ It is not possible for us to confirm this as SIC codes were not included in the database supplied by HMRC.

specify an exact number of interviews to be conducted with organisations in each activity sector.

5. The majority (93%) of organisations included in the list supplied by BIS received only one grant for R&D.

However, organisations claiming tax credits exhibit different patterns of behaviour; the three key groups we identified were:

- i. Those that have claimed R&D credits in only one year since 1st April 2007
- ii. Those claiming tax credits in each consecutive year since they began claiming
- iii. Those claiming tax credits more sporadically – a number of organisations have gaps between claims. For example, an organisation might claim in one year, not claim the next and then claim the year after that.

The table below illustrates the number of organisations included in the database supplied by HMRC¹¹ that fell into each group, split by whether their most recent claim was for R&D tax credits under the large or SME schemes:

Table 3 Claim patterns R&D tax credit claimants since 1st April 2007

Scheme	Claimant in one year only	Claimant in consecutive years	Sporadic claimant	Total
Large	56	106	45	207
SME	182	320	151	653
Total	238	426	196	860

¹¹ The database supplied by HMRC comprised approximately one in ten of the organisations claiming tax credits. We assumed this was broadly representative of the market.

We decided therefore to include in a sample a selection of organisations in each group identified above.

6. As already mentioned, HMRC identified approximately 500 organisations that have responded to the BERD survey to indicate recent R&D expenditure, but had never made R&D tax credit claims.

We decided to interview around five of these organisations to understand how they approach R&D and why they have never made a claim for R&D tax credits.

We also decided to interview five organisations that received a grant for R&D before 1st April 2007 but had not claimed any public support since as it was possible that some of these organisations were conducting R&D but not making a claim.

In both instances we confirmed with the key contact identified in the organisation that they were currently conducting R&D prior to interviewing them.

7. Only 14 organisations had claimed VRR since 1st April 2007; we therefore decided to approach all 14 organisations to invite them to participate in the research.

As a further 10 organisations had claimed VRR at some point prior to 1st April 2007; when the initial response rate was low for the organisations initially invited to participate, we decided to invite all VRR claimants to participate.

8. We decided to interview at least five organisations in each key group of interest where possible to provide sufficient data to draw indicative conclusions about the group as a whole whilst minimising the risk of being misled by unrepresentative individual responses.

Interviews conducted and respondent profile

The final sample for the study comprised 69 companies:

- 15 claimants of SME scheme R&D tax credits
- 11 claimants of large scheme R&D tax credits (including four organisations that have claimed VRR)
- 15 claimants of R&D grants and tax credits
- 16 claimants of R&D grants only
- Four organisations that conduct R&D in the UK, but have not claimed tax credits or grants
- Eight organisations that received an R&D grant before 1 April 2007, but have not subsequently claimed/received public support.

A full breakdown of the interviews is provided in table 4.

The samples were de-duplicated to ensure that businesses were only interviewed in one category.

Table 4 Sample structure – number of organisations interviewed in each group

Segment	Size	Claimed in one year only	Claimant in consecutive years	Sporadic claimant
Claimants of SME scheme R&D tax credits since 1st April 2007	SME (less than 250 employees)	6	5	4
Claimants of large scheme R&D tax credits since 1st April 2007	SME (less than 250 employees)	1	5	1
	Large (250+ employees)	4		
	Total	11		
Claimants of R&D tax credits since 1st April 2007 that have also received an R&D grant	SME (less than 250 employees)	15		
Recipients of R&D grants only since 1st April 2007	SME (less than 250 employees)	16		
Organisations that conduct R&D in the UK, but have not claimed tax credits	Any	4		
Received an R&D grant before 1st April 2007, but have not subsequently claimed/received public support	SME (less than 250 employees)	8		

Respondent profile

Tables 5 and 6 provide an overview of the profile of respondent companies by business activity sector and size (number of employees). Profile information is reported in separate tables here to avoid disclosure.

Table 5 Respondent profile – activity sector

Business activity sector	Number of interviews
A. Agriculture, hunting and forestry	1
D. Manufacturing	44
E. Electricity, gas and water supply	2
I. Transport, storage and communication	1
K. Real estate, renting and business activities	21
Total	69

Table 6 Respondent profile – size (number of employees)

Number of employees	Number of interviews
Micro (1-9 employees)	30
Small (10-49 employees)	23
Medium (50-249 employees)	9
Large (250+ employees)	1
Very large (5000+ employees)	3
Unwilling to disclose	3
Total	69

Total R&D expenditure across the sample in 2008/9 (where they were willing to disclose this information) was approximately £1.5 billion. The largest companies interviewed accounted for the majority of the expenditure. It is not possible to provide a further breakdown of this expenditure as to do so could compromise confidentiality.

Recruitment

The sample was drawn from databases supplied by HM Revenue & Customs and BIS, providing 1923 contacts in total. Letters were sent to a stratified random sample of 677 of these, explaining the research and inviting participation while offering them the opportunity to opt out (see section 16.3).

The letter included both the HM Revenue & Customs and BIS logos while making it clear that the approach was coming from an independent research consultancy.

Where a response was not received within a period of two weeks the organisations were telephoned to identify the key contact, explain the research and invite them to participate.

A total of 102 companies chose to opt out by responding to the letter. The remaining 575 formed the basis of the sample for the study.

Table 7 summarises the number of opt-out letters that were sent to companies in each stratum and the number of companies that chose to opt-out:

Table 7 Summary of opt-outs

Segment	Number of letters sent out	Opt-outs
Claimants of SME scheme R&D tax credits since 1st April 2007	181	31
Claimants of large scheme R&D tax credits since 1st April 2007	82	11
Claimants of R&D tax credits since 1st April 2007 that have also received an R&D grant	66	5
Recipients of R&D grants only since 1st April 2007	160	20
Organisations that conduct R&D in the UK, but have not claimed tax credits or received a grant	52	17
Received an R&D grant before 1st April 2007, but have not subsequently claimed/received public support	113	16
VRR	23	2
Total	677	102

Table 8 summarises the recruitment outcomes for the 677 companies to which opt-out letters were sent.

Table 8 Summary of recruitment outcomes

Outcome	Number of companies
Number of opt-outs	102
Number unobtainable from internet or phone books	51
Not contacted (e.g. Where quota full)	103
Made direct contact through email/phone/letter but could not get through to relevant person / secure appointment	288
Refusal from target respondent	60
Interviewed	73
Total	677

Respondents

Within each organisation the key contact was the person who is principally responsible for R&D in the company. In larger businesses this was usually a research manager or director, while in smaller firms it was normally the MD/chief executive or another senior manager. Interviews were also undertaken in the sample companies with senior financial decision-makers and individuals responsible for processing R&D tax credits or grant claims.

We conducted between two and five interviews per organisation, depending on the number of people involved in R&D decision making; in small firms relatively few people were involved in decision making while in large organisations decision making involved numerous people.

In addition, to explore issues raised by respondents, telephone contact was made with six accountants who worked on R&D tax credit claims, and with one venture capitalist.

The interview

Process

An initial interview was conducted by telephone with the key contact to:

1. Confirm their suitability for the study and the element of the sample they fell into
2. Identify other interviewees
3. Request documentation such as annual reports or documents making the business case for R&D
4. Establish the preferred approach to organising the interviews e.g. whether the principal contact was able to access all the relevant diaries and willing to confirm dates or if we needed to make contact with respondents individually to ascertain availability.

Where the key contact was willing to conduct the interview face-to-face, a visit was made to the company's premises to conduct the interviews for a day; a date was selected when as many as possible of the required respondents were available. Where respondents were not available on the day a telephone interview was arranged.

All respondents were sent letters following their interview to thank them for participating.

Topic guide

A topic guide was prepared (see section 16.2) to support the interviewer in exploring the research questions. It is important in qualitative research that the interviewee and interviewer are both free to explore issues as they arise or to introduce new subjects; interviewers were therefore not expected to follow the topic guides rigidly.

In addition to reporting the factual information they obtain researchers contributed subjective opinions and ideas that occurred to them during the process.

Interview recordings

All interviews were audio recorded (subject to the respondent's permission). Key findings from each interview were also recorded in a secure database along with verbatim quotes and the researcher's insight into the lessons from the interview.

The audio recordings were used:

- To provide an aide memoir for writing up the interview
- To enable quality checks to take place in line with Databuild's ISO20252 compliant quality procedures.

The recordings will be archived for at least one year following the completion of the project (i.e. until March 2011).

15.2 Topic Guide

Project name: HMRC/BIS qualitative research into R&D decision making

Written by: Karl King, Charles Michaelis

Topic guide status: Final

Interviewer guidance

This topic guide will be used for respondents with a range of responsibilities; while it is important to obtain responses in all areas it is likely that more depth will be needed in some areas than others depending on the responsibilities concerned e.g.

- For strategic respondents such as MDs or CEOs we are chiefly interested in how they make decisions about R&D in the context of their overall business strategy, what influences their decisions and the impact of tax credits and grants as part of that.
- For financial respondents we are chiefly interested in the financial dynamics of the decision and how tax credits and grants are incorporated in financial decision making.
- For R&D managers we are interested in how they make decisions about what R&D should be conducted; how they gain approval for the activity within their organisations and how tax credits and grants influence that process.

The interview has high level questions which are supplemented by areas where it would be valuable to probe if appropriate. It is not anticipated that all the probe questions will be asked to all respondents. It is structured in three stages:

1. Understanding the business in general; the financial, market and economic context in which decisions are made
2. Exploring R&D behaviour and decision making
3. The impact of tax credits and grants on that behaviour

However, respondents may bring in relevant material at different stages of the interview; we will be flexible in the structure of the conversation.

We are only interested in scientific and technological research and development; this comprises projects which seek to achieve an advance in overall knowledge or capability in the field of science and or technology through the resolution of scientific or technological uncertainty - and not simply an advance in the company's own state of knowledge or capability¹². We are focusing on direct costs, rather than support costs. **This is a very specific filter and the key words that describe the type of spend we are interested in are R&D "revenue expenditure"**. Capital expenditure is excluded from this research.

In all interviews think about how the responses fit in with what you have heard from other respondents, if there are apparent contradictions it will be important to explore these and if necessary go back to earlier respondents to clarify behaviour. Before the interview you should review the company's website and for public companies the interviewer should have read the latest annual report and accounts.

Introduction – all respondents

Good morning/afternoon. Thank you for agreeing to meet/speak with me today. As my colleague will have explained [on the phone] we are currently conducting research for HM Revenue and Customs (HMRC) and the Department for Business Innovation and Skills (BIS) exploring how organisations make decisions about whether to undertake scientific or technological research and development (R&D) in the UK, and whether and how UK government sponsored research incentives such as R&D tax credits and R&D grants influence your decisions.

I'd like to record the interview so that I can review it later as part of the analysis. Would that be OK? None of the information that you provide will be published or shared with any other party in a form that could be used to identify you or your organisation. Your responses will be processed in a way that will result in them being neither attributable to you or your organisation.

¹² See <http://www.hmrc.gov.uk/ct/forms-rates/claims/randd.htm#4> for further information about the tax definition of R&D.

Interview overview – a guide for the interviewer

Introduce yourself and check OK to record

Organisation and respondent profile

Context for decision making – key challenges they/their organisation face

R&D and decision making behaviour; tailor to respondent to establish operational/ financial/strategic/commercial dimensions of the decision-making process:

1. Why do they conduct R&D? Probe to understand context for R&D decision making
2. What factors do they consider in making decisions about R&D? What influences the decision making process? Why?
3. What do they consider (and why) when deciding what R&D to conduct, how much to spend on R&D, where to conduct R&D? Where applicable probe to understand what influences them to conduct R&D in the UK / outside the UK.
4. What kinds of R&D do they conduct/have they conducted? Why? What affects the kinds of R&D they conduct?
5. How often do they conduct R&D? What affects how often they conduct R&D?
6. How do they make decisions about investments (in general) and R&D in particular?
7. Who is involved in making decisions about R&D and how does it work?

Explore awareness of public support for R&D and influence (if any) this has on their decision making; probe for details

1. What do they know about the public support that is available to them for R&D?
2. Does the existence of R&D tax credits influence decision making? If so, how? If not, why not?
3. Does the existence of R&D grants influence decision making? If so, how? If not, why not?
4. Does the existence of Vaccine Research Relief influence decision making? If so, how? If not, why not?

Tell them what we know about the tax credits/grants they have claimed; confirm correct

Refer to topic guide for specific questions for (NB more than one section may be relevant):

1. SMEs
2. One-off claimants of R&D tax credits
3. Sporadic claimants of SME scheme tax credits
4. Those that have both claimed tax credits and received a grant
5. Those that have only received a grant for R&D

Explore perceptions and experience of tax credits/grants

How easy/difficult was it to claim tax credits/VRR/grants? Which aspects were easy/difficult?
Do they use agents to help them to claim support? Do they pay them commission? Do they
intend to use an agent next time – if so why? If not, why not?

If they are aware of tax credits/grants but have not applied

Why haven't you applied for a grant for R&D / claimed tax credits? Probe for
perceptions/reasons?

Explore the impact of the tax credits/grants

Thinking about the last time they claimed tax credits/grants – would they have done anything
differently if the tax credits/grants had not been available? If so, what and why? If not, why
not?

Interview close

Organisation profile – confirm with first respondent

NB basic information to be obtained from database/captured during recruitment and confirmed at the time of interview

The intention of this section is to gather general information about the organisation. It is possible that the first respondent will not know the answers to the detailed R&D questions; if so they should be picked up with the R&D manager.

Organisation profile¹³; capture:

- Details of their business activities to enable identification of primary sectors in which the company operates and the market served
- Number of employees – ask about full time, part time, temporary staff and sub-contractors to get an understanding of the scale of the organisation
- Number of scientists/technologists/engineers engaged on R&D.
- Expected sales turnover for 2009/10 and actual for 2008/9
- Total R&D planned spend for 2009/10 and actual for 2008/9
- Multi-site / single site organisation; if multi – how many sites; where are they and what do they do, and how does the work undertaken differ between sites?
- UK only / UK and overseas? Where is head office (if not UK?)
- Is R&D a distinct activity in the company or an intrinsic part of the company's main activities?
- Do they have specialist/dedicated R&D resources?
- Is R&D undertaken at multiple sites; if so where are they and how does the work differ between them
- If head office overseas; what role does Head Office have in making decisions about the activities (R&D and other activities) undertaken in the UK?

¹³ Test how far it is possible to obtain some of the factual information about turnover, number of employees and R&D spend in the pilot.

Respondent profile – all respondents

[First of all] it would be useful if you could tell me a bit about yourself...

Capture:

- Job title
- Length of time in role
- Length of time that you have worked for the organisation
- Role in the organisation and main responsibilities
- Present and any past roles in R&D decision making and length of time you have been involved

Context – all respondents

The intention of this section is to understand the overall market and economic context of the business rather than to focus on scientific or technological R&D. However, if they raise R&D in that context then it should be explored.

What are the key challenges that they personally face in their role at the moment, and over the next 3-5 years? Why?

Think about:

- The context in which they are making decisions about R&D – what are their priorities?
- Do they talk about R&D? If so, where does R&D fit into the overall challenges they face – is it a solution to a problem or is it a challenge/problem to manage or deliver? Why?

What are the key challenges for the organisation now and over the next three to five years? Why?

Think about:

- The organisational context in which they are making decisions about R&D – what are the priorities for the organisation?
- Impact of the recent economic climate/recession
- Do they talk about R&D? If so, where does R&D fit in – is it helping them to address a key challenge or is it a challenge in itself? Why?

R&D decision making behaviour – all respondents

In this section aim to obtain examples; it might be helpful to get respondents to talk about the last project they were involved in and relate the questions to that.

Why do they conduct R&D? Probe to understand context for R&D decision making.

Think about:

- Reasons for conducting R&D and how it ties in with their commercial objectives
- Does the company have a coherent overall R&D corporate strategy and plan e.g. including identification of high level R&D priorities? - and; if so, what is the process for developing this strategy?
- The time frame for R&D – do they have long-term R&D programmes or short-term projects?
- What proportion of R&D performed is 'blue skies' research?
- What proportion of R&D performed involves significant technological risk?
- Are technological outcomes of the R&D formally evaluated, how is this conducted –can we see a recent report? How are success and failure defined? Do they have patents? If so, how many?
- Do they consider Intellectual Property to be of strategic value to the business?

What factors do they consider in making decisions about R&D? What influences the decision making process? Why?

What do they consider (and why) when deciding:

- What R&D to conduct
- How much to spend on R&D
- How many R&D projects to conduct
- Where to conduct that R&D (where they have more than one site – particularly interesting if they have sites outside the UK)¹⁴.

Where they have sites outside the UK

- **Why do they conduct R&D in the UK (as opposed to other countries in which they have sites)?**
- **Do they conduct R&D outside the UK? If so, why do they conduct that R&D outside the UK? Is there any reason that they don't conduct that R&D in the UK?**
- **If they don't conduct R&D outside the UK, why not?**

What kinds of R&D do they conduct/have they conducted? Why? What affects the kinds of R&D they conduct?

Think about:

- How do they decide what R&D to conduct? What do they take into consideration? Are there trade-offs and how do they deal with them?
- Impact (if any) of the recent economic climate/recession
- Different types of R&D – basic, blue skies, experimental, prototype, near to market, etc.
- Do they engage in collaborative R&D (i.e. undertake projects jointly with other businesses, business partners, organisations, academia)¹⁵?

¹⁴ Explore the key factors that influence where they decide to conduct their R&D. The strength of the UK research base (facilities/expertise etc) is believed to be a factor in attracting companies' R&D investments

- Do they apply the concept of 'Open Innovation'¹⁶?
- Did they mention tax credits / grants? How does this affect the kinds of R&D they conduct?
- Do they have links to /work with external research establishments e.g. The Welding Institute, or with universities and HEIs?

How often do they conduct R&D? What affects how often they conduct R&D?

Think about:

- How often do they conduct R&D? What does this depend on?
- What affects how often they conduct R&D? How?
- What is the typical timeframe of R&D investment?
- Impact (if any) of the recent economic climate/recession
- Did they mention tax credits / grants? How does this affect how often they conduct R&D?

How do they make decisions about investments (in general) and R&D in particular?

Think about:

- What accounting tools do they use to evaluate investments (payback, Discounted Cash Flow, etc)?
- What return do they look for?

¹⁵ These interactions could range from joint research ventures between business and university or public research centre, use of public research labs (e.g. [RAL](#)), attendance to seminars or knowledge exchange with academics (including knowledge transfer partnerships <http://www.ktponline.org.uk/>)

¹⁶ The central idea behind **open innovation** is that companies cannot afford to rely entirely on their own research and development, but should also use external ideas and routes to market in advancing their technology. For example, a company could buy or license processes or inventions (e.g. patents) from other companies. In addition, internal inventions not being used in a firm's business could be taken outside the company (e.g., through licensing, joint ventures, spin offs).

- How do they formally optimise the return on investment in R&D spend in terms of selecting projects, avoiding duplication of research, obtaining external funding, collaborating with other organisations, horizon scanning etc?
- Do they benchmark their level of R&D spend against competitors?
- Do they calculate the value-added of their R&D spend against turnover with a view to determining the continuing financial viability of the company?
- How do they evaluate risk relating to R&D and incorporate that in their investment decisions?
- Are these aspects corporate policy or is it more ad hoc? Who sets it? Where is it set?
- Do they incorporate the tax credit/grant in the calculation of ROI? How? Is their future value taken into account in current decisions?
- Do they routinely incorporate the tax credit in budget planning for forward years?
- What is the process of preparing and approving financial submissions?
- Are there any materials that might help us to understand in more detail how the process works (e.g. an example business case, meeting minutes, checklists for evaluating the business case for R&D to be conducted etc) – can we view/take a copy or template?

Who is involved in making decisions about R&D and how does it work?

Think about:

- Who is involved in decision making and what role do they play; how many people are involved in the decision making process – use this to determine if there are any other individuals that we should be speaking to
- Is the process the same for all R&D (e.g. blue skies vs. prototype)? If not, what does it depend on?
- Is the process formal/informal?
- What is the process or order of the decision? (e.g. set R&D budget then decide what to spend it on, or invite proposals for R&D projects and fund each proposal on its merits?)
- What is the frequency and timeframe of R&D decisions? How easily are/can decisions be changed?

- How is R&D spending presented in company accounts – current vs. capital R&D? Why? How does this compare to R&D definitions used to claim tax credits etc?
- Are there any materials that might help us to understand in more detail how the process works (e.g. an example business case, meeting minutes, checklists for evaluating the business case for R&D to be conducted etc) – can we view/take a copy or template?

Influence of R&D tax credits and grants

These questions will be asked to all respondents; however, based on their roles and experience it is likely that their answers will focus on different areas for example:

- R&D respondents will know more about the influence of the support on the process of R&D and how they use it in research proposals
- Finance respondents will be likely to speak most about the influence on return on investment and financial appraisal
- Those aware of support, that have not used it, will be able to provide information on the reasons why not.

All respondents

What do they know about the public support that is available to them for R&D?

Think about:

- Are they aware of (where applicable)
 - SME scheme tax credits
 - Large scheme tax relief
 - Grants for R&D
 - Collaborative grants for R&D delivered by Technology Strategy Board
 - VRR
- What do they understand about what they are eligible for?
- Do they have any misconceptions?

All respondents aware of R&D tax credits

Does the existence of R&D tax credits influence decision making? If so, how? If not, why not?

Do the tax credits influence decisions about:

- What R&D to conduct
- The level of risk to take
- How much to spend on R&D
- Where to conduct that R&D (where they have more than one site – particularly interesting if they have sites outside the UK)
- Overall, how much of an incentive do R&D tax credits provide for your company to undertake R&D in the UK?
- Any other aspect of the decision making process.

At what stage do they influence these decisions?

All respondents aware of (and eligible for) grants for R&D

Does the existence of R&D grants influence decision making? If so, how? If not, why not?

Do the grants influence decisions about:

- What R&D to conduct
- How much to spend on R&D
- Where to conduct that R&D (where they have more than one site – particularly interesting if they have sites outside the UK)
- Overall, how much of an incentive do R&D tax credits provide for your company to undertake R&D in the UK?
- Any other aspect of the decision making process.

At what stage do they influence these decisions?

For VRR claimants

Does the existence of Vaccine Research Relief influence decision making? If so, how? If not, why not?

Does the VRR influence decisions about:

- What vaccines R&D to conduct¹⁷
- How much to spend on vaccines R&D
- Where to conduct that R&D (where they have more than one site – particularly interesting if they have sites outside the UK)
- Do they conduct vaccines R&D outside the UK?
- If so, why do they conduct that R&D outside the UK?
- Is there any reason that they don't conduct that R&D in the UK?
- Overall, how much of an incentive does vaccine research relief provide for your company to undertake vaccines R&D in the UK?
- Any other aspect of the decision making process.

At what stage do they influence these decisions?

Exploring claimant behaviour

Introduction

Tell them what we know about the tax credits/grants they have claimed based on information provided by HMRC/BIS.

For example:

¹⁷ Vaccine Research Relief currently applies only to R&D into vaccines and medicines for the prevention and treatment of strains of malaria, tuberculosis and HIV/AIDS prevalent in the developing world.

- **One claim only**

I understand that they claimed tax credits under the SME/large scheme for the first time in 200X/Y.

- **Regular consecutive claims**

I understand from the information provided to us by HMRC that they have claimed SME/large tax credits every year since X.

- **Sporadic claims**

I understand that they claimed SME/large scheme tax credits in X and Y, but did not claim any tax credits in Z

Is that correct?

For SMEs

Where applicable

If they have only claimed a grant for R&D, do they know that they can also (potentially) claim tax credits under the large scheme?

If they are claiming SME tax credits, did they consider claiming a grant for R&D instead? Why did they decide to claim SME tax credits?

If they are receiving a grant for R&D, did they consider claiming SME tax credits instead? Why did they decide to apply for a grant?

For one-off claimants of R&D tax credits

Did they conduct R&D prior to 200X/Y (either in or outside the UK)? If they conducted R&D in the UK, why didn't they claim tax credits?

Where appropriate

Have they conducted any R&D since 200X/Y? If so, are they intending to claim tax credits?

For sporadic claimants of SME scheme tax credits

Check whether they undertook any qualifying activity in years when they did not claim; if so why didn't they claim the tax credit¹⁸?

For those that have both claimed tax credits and received a grant

Did they claim tax credits and a grant in the same year? Were they for the same project?

If not, why did they decide to apply for a grant / claim tax credits in each year that they made a claim / received a grant.

For those that have only received a grant for R&D

Were they aware of tax credits? Why did they decide to apply for a grant rather than claiming tax credits?

Perceptions and experience of tax credits and grants

For those claiming tax credits / VRR / receiving grants

How easy/difficult was it to claim tax credits / VRR?

Probe to understand which aspects they found easy/difficult.

How easy/difficult was it to apply for a grant for R&D?

Probe to understand which aspects they found easy/difficult.

Have they used agents (e.g. accountants/other third party specialists) to help them to claim tax credits/apply for grants? Do they pay the agents commission? Are they

¹⁸ Bear in mind that they may have conducted R&D that was not eligible for tax credits.

intending to use the agent to help them next time they submit a claim / apply for a grant? If so, why? If not, why not?

Where aware of and eligible for tax credits/grants but have not applied

Why haven't you applied for a grant for R&D / claimed tax credits?

Explore their perceptions and reasons for not applying; for example is it because they feel

- They might not get it
- It might be a lot of work
- It might take a long time to be approved [Note HMRC timescale for uncontentious R&D tax credit claims is one month]
- It might mean they have to change the project in some way
- There might be onerous compliance/recording/reporting requirements
- Something else?

Are they aware of recent enhancements to the levels of relief (SME scheme 175% of eligible expenditure, Large Company scheme 130% of eligible expenditure) + introduction of HMRC specialist units to process claims, and if not would this change their view about claiming credit in future?

Impact of tax credits and grants

Thinking about the last time that they claimed tax credits/grants...

Would you have done anything differently if the tax credits / grants had not been available?

If so, what would have been different? If not, why not?

Think about whether the tax credits/grants help them to:

- Conduct R&D that would otherwise not have been financially viable
- Invest more in the R&D that they were conducting

- Conduct R&D sooner than they would otherwise have been able to do so
- Improve the quality of the R&D (e.g. grants can introduce partners the company would not otherwise have the opportunity to work with on R&D)
- Undertake riskier R&D
- Have you quantified the value of R&D tax credits to your business? [Recent research by the CBI suggests that tax credits have resulted in cost savings to industry of 8% and that, as a result, 37% of claimants have increased R&D spending and 50% have maintained their spending levels¹⁹].
- If R&D tax credits were abolished, what impact would this have on the level of R&D performed by the company – significant, moderate, insignificant?

Were there any other benefits to the organisation of claiming tax credits/grants for R&D (e.g. competitive advantage, business growth/survival, securing venture capital)? Probe for details and determine if we should speak to others to confirm impact (e.g. Venture Capitalists)

Think about, but do not prompt:

- Do they talk about the tax credits/grants adding an endorsement to the project?
- Do they tailor their projects in any way to benefit from state aid – e.g. definitions, scope etc?

Close of interview – all respondents

Thank you – I think that's all my questions.

Do you have any further comments that you would like me to pass on to HMRC or BIS?

Would it be OK to give you a call if there is anything I need to clarify after I've had chance to reflect on our conversation? Thank you for your time.

¹⁹ Impact of the R&D tax credit, CBI, February 2009

NB – if any additional individuals are identified in the course of the conversation that would be useful to speak to, capture contact details before completing the interview and ask the respondent to mention to the individuals concerned that we will be in contact.

15.3 Opt-out letter



HM Revenue & Customs
Room 2E02
100 Parliament Street
London
SW1A 2BQ



«Title» «First_name» «Surname»
«1_Address_Line»
«2_Address_Line»
«3_Address_Line»
«Pcode»

Internet site www.hmrc.gov.uk

Date 6 November 2009
Our Ref «unique_serial_no»

Dear «Title» «Surname»

Business consultation: research and development (R&D)

I am writing to ask you to participate in an important consultation jointly launched by HM Revenue & Customs (HMRC) and the Department for Business, Innovation & Skills (BIS) on the innovative decision making processes of UK companies. The two departments have commissioned Databuild Ltd, an independent research consultancy, to talk to companies like yours about how you make decisions on research and development (R&D). The aim of the research is to understand the impact of different factors, including R&D support schemes, on the R&D that you conduct in the UK. The views of those responding to the consultation will inform future policy development.

You have been randomly selected from either HMRC/BIS records of companies benefiting from government support for R&D or ONS (Office of National Statistics) records of companies conducting R&D. Please be assured that any information you give as part of this study will be used for research purposes only and will be treated as confidential. Your contact details will also be held securely at all times. **In line with the Data Protection Act Databuild will not link your name with any of the information you give so that HMRC/BIS will not know what information you have personally provided.**

HMRC Research and Development (R&D) decision making processes

Final report

August 2010

Databuild may contact you in the next few weeks to ask whether you would be willing to take part in this research and to arrange a suitable time for an interview. In order to build a full picture of R&D decisions in your company we would also like to speak to up to three of your colleagues who are involved in the decision-making process. Please note that not everyone who receives this letter will be asked to take part in an interview. If you do take part, the interview will take up to an hour, ideally face-to-face at a location convenient to you, although interviews can be conducted via telephone if it is not possible to meet face-to-face.

If you do not wish to take part, please let Databuild know before 17 November 2009, either by:

- Completing the slip on the reverse of this letter and sending it back in the enclosed postage-paid envelope (you do not need to use a stamp); or
- Calling Nathan Hollis on [REDACTED] and giving your name and the reference number shown in the top left hand corner above.

If you have any questions about the research, Databuild will be happy to answer them when they contact you. If you wish to confirm that this is a genuine research study, please contact me, Adam Roberts at HMRC, on [REDACTED].

Your views are invaluable to us and we hope that you will take part in this important study.

Yours sincerely,

[REDACTED]

Adam Roberts, HM Revenue & Customs

----- Please cut here -----

I, «Title» «First_name» «Surname», do not wish to take part in the Databuild/HMRC/BIS research into R&D decision making processes.