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Introduction to Business Research 1

The Research Proposal

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Introduction to Business Research 1

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Preface

The EBS DBA at a Glance

Programme Rationale

The Edinburgh Business School (EBS) Doctorate in Business Administration (DBA) programme is designed to develop applied business skills that can be used in real-world applications to address and solve real-world issues. The programme is aimed primarily at experienced managers and business professionals who are looking to develop doctoral-level research skills that can be put to practical use.

Traditional doctoral-level research is performed as part of a programme leading to the award of a Doctor of Philosophy (PhD) degree. Many PhD holders move into academia and develop academic careers as professional researchers. The DBA is an equivalent standard alternative. Most EBS DBA graduates will probably remain in commerce and industry and will develop careers as research professionals.

Irrespective of how doctoral skills are used or applied, and whether the programme leads to the award of a PhD or a DBA, the overall level of attainment is the same. In both cases the researcher must contribute to the existing knowledge base in some way. This contribution could be made, for example, through the discovery of new facts. It could, alternatively, be made through the demonstration of high-level critical reasoning. Either way the research process is based on finding out something new, using something in a new way or using an existing tool to fix a new problem.

Many people who enter doctoral programmes have little or no research experience. A significant proportion of people who enter the EBS DBA programme hold existing MBA degrees. MBAs often comprise wholly taught course elements, with little or no direct research. Even people with an existing MSc, which may involve a research element, may have no research experience beyond that required to produce an MSc-level dissertation.

The EBS DBA programme attempts to address this issue by requiring all new entrants to complete a suite of three research courses that prepare the student to work with a mentor and then a supervisor in developing doctoral research. The three research courses are entitled *Introduction to Business Research* because that is what they do: they provide an introduction to how to do business research. They are aimed primarily at people who have no previous experience of doctoral research.

Programme Structure

In the EBS DBA candidates are required to design and implement a programme of doctoral research. The research is written up in the form of a thesis that is presented for examination. The examination is a viva voce or formal defence of the thesis before internal (Heriot-Watt University) and external (other university) examiners.

The EBS DBA comprises two stages: the courses stage and the research stage. The courses stage prepares candidates for each phase of the research stage.

The Courses Stage

The courses stage comprises three courses. These courses are called the *Introduction to Business Research* (IBR) courses. They are referred to as IBR1, IBR2 and IBR3.

- IBR1 explains how to prepare a research proposal.
- IBR2 explains how to prepare a literature review submission.
- IBR3 explains how to design and conduct the main study, generate results and write up the thesis.

The Research Stage

The research stage largely mirrors the courses stage, where the various elements of the thesis are put together. In the research stage three separate pieces of work have to be produced for assessment.

A research proposal: a comprehensive statement of what the candidate proposes to do and how he or she proposes to do it. This covers areas such as the aims and objective of the proposed research, background literature review, outline research methodology, programme of works, ethical issues, etc. IBR1 explains how to prepare a research proposal.

A literature review submission: a title page, summary, introduction and a series of final draft thesis chapters including a comprehensive and exhaustive critical review of the existing literature base in the proposed area of research, together with a synthesis, statement of research aims and objectives, hypotheses and an outline research methodology chapter. IBR2 explains how to prepare a literature review submission.

A final thesis: a 45 000–50 000-word final thesis that incorporates the chapters submitted in the literature review submission (see above) together with a full research methodology chapter, results chapter, conclusions chapter and all other components of the final thesis, bound and submitted according to university regulations. The thesis is then examined by qualified examiners at a viva voce examination. The candidate is questioned, and all parts of the thesis are examined and a face-to-face oral defence is required. IBR3 explains how to design and conduct the main study, generate results and write up the thesis.

Assessment

The courses stage: each of the IBR courses is examined in a three-hour written examination. Candidates must achieve a minimum mark of 50 per cent to pass each examination, and all three examinations must be passed. A maximum of one resit per subject is allowed. If the candidate fails an examination twice, he or she is required to withdraw.

The research stage: the research proposal, literature review submission and final thesis are all submitted for formal review by the DBA Research Committee. The Committee is a panel of EBS and external academics chaired by the EBS DBA Programme Director. Submissions must be accepted by the Committee before the student can progress to the next element. If an element is rejected, the Committee will issue a schedule of further work required and the element is returned to the candidate. Candidates can normally make up to two resubmissions of each element. If both resubmissions are rejected, the candidate is required to withdraw.

The examination: the thesis is examined at a viva voce examination. Most candidates attend EBS for the examination, although examinations can be arranged via video link if required. A typical viva voce lasts for some two to three hours. The outcome can be anything from *'Recommend award of degree'* to *'Fail'*. The most likely outcome is *'Recommend award of degree with minor alterations'*. In this case the candidate is required to make minor corrections to the thesis prior to being put forward for the award of the degree.

Summary

Candidates have to:

1. Complete IBR1, IBR2 and IBR3 and successfully pass the examination in each case.
2. Prepare a research proposal and have it accepted by the DBA Research Committee.
3. Prepare a literature review submission and have it accepted by the DBA Research Committee.
4. Prepare a final thesis and have it accepted by the DBA Research Committee.
5. Present and successfully defend the thesis at viva voce examination.

The Detailed Content of the IBR Courses

The three courses build on each other. The basic sequence of development is shown below.

Introduction to Business Research 1 (IBR1): The Research Proposal

IBR1 acts as an introduction to business research and provides an explanation of how to develop a research proposal. A research proposal is essentially a structured statement of what the intended research is about and what it will try to achieve. It contains details of exactly what the researcher intends to do and exactly how he or she intends to do it. The research proposal has to address a number of individual areas. For example, it has to demonstrate a reasonable knowledge and understanding of what has already been published in the chosen research area. It has to contain a statement of methodology that explains exactly how the research is to be performed. The final research proposal is assessed by the DBA Research Committee. It has to be accepted by the Committee before the researcher can progress to the supervised stage of the research.

IBR1 explains how to develop and write the research proposal.

Introduction to Business Research 2 (IBR2): The Literature Review

IBR2 develops and builds on the material covered in the first research course. It provides the understanding required by the candidate to develop a full critical literature review and outline methodology. A literature review, as the name suggests, is a full and systematic critical review of all the relevant literature published in the chosen research area. In order to develop doctoral research, the researcher must contribute to the knowledge base. In order to demonstrate a contribution to the knowledge base, it is first necessary to define what the existing knowledge base is. This is done by critically reviewing all the relevant literature in the chosen area and building up a detailed understanding of that literature and the knowledge contained within it.

IBR2 explains how to develop and write the literature review submission.

Introduction to Business Research 3 (IBR3): The Research Method, Data Collection, Analysis and Results

IBR3 provides an understanding of how the candidate can develop and design a suitable research method, collect and analyse data, and generate results and conclusions. It also describes the process involved in writing up a doctoral thesis and presenting the work to a board of examiners. The course covers a range of basic research methodologies at an introductory level, illustrating the basic characteristics of the various approaches. It also explains the process of generating results and conclusions and the mechanics of writing up the thesis and preparing for the examination.

IBR3 explains how to collect data, analyse it and generate results and conclusions. The course also explains how to write up the thesis and then defend it in the examination.

Collectively the three courses provide an introduction to business research. The examinations are designed to measure the student's knowledge and understanding of the texts and

also how well he or she can apply the course content to examination-based case studies. By the time a student has completed all three courses, he or she will have developed a knowledge and understanding of applied business research that will enable him or her to start work with a doctoral supervisor.

Module 1

Introduction

Contents

Learning Objectives

By the time the candidate has completed this module, he or she should understand:

- the structure of the EBS DBA *Introduction to Business Research* courses;
- the relationship between the courses;
- the aims and objectives of the research stage of the EBS DBA programme;
- the structure of the research stage of the EBS DBA programme;
- the basic concept of a doctoral thesis and what this entails;
- the stages in the development of a doctoral thesis;
- the roles of the people involved in mentoring, supervision and examination;
- some important underlying concepts.

1.1 Introduction

This module introduces the *Introduction to Business Research* course texts, with particular emphasis on *Introduction to Business Research 1*. In doing so, it also introduces the research stage of the Edinburgh Business School (EBS) Doctorate in Business Administration (DBA) as a whole. It describes how the three *Introduction to Business Research* courses form the foundation of the research stage, and explains the philosophy and structure of the research stage and the mechanics of the mentored and supervised phases within the research stage. It describes the structure of the main documents that have to be prepared and submitted for review during the research stage, including the research proposal, the literature review submission and the thesis.

The EBS DBA programme comprises a courses stage and a research stage. Candidates are required to complete the courses stage before progressing to the research stage, and both

stages have to be successfully completed for the candidate to be eligible for the award of the degree of DBA.

The courses stage comprises courses that prepare the candidate for the research stage. The courses stage usually comprises the three *Introduction to Business Research* courses. In some cases, however, the courses stage may involve additional courses. For example, where there is a mismatch between a candidate's existing qualifications and his or her chosen area of specialisation, one or more additional courses may be prescribed. In such cases, the precise composition of the courses stage depends on the candidate's qualifications and experience. All candidates, except those with existing doctoral degrees, study the three *Introduction to Business Research* courses. Most EBS DBA candidates have little or no research experience when they enter the programme because most hold MBA and/or MSc degrees that contain no applied research. It is necessary, therefore, to develop basic research skills before the candidate progresses to the research stage. The *Introduction to Business Research* courses develop generic knowledge and understanding of how to design and implement applied business research.

Introduction to Business Research 1 establishes the research foundation. It introduces the concept of applied business research and develops an understanding of how research ideas can be identified, developed and worked up into a formal research proposal that can be critically evaluated to determine the viability of what is proposed.

On completion of *Introduction to Business Research 1*, the candidate will be equipped to design and write a fully structured and coherent research proposal that describes what the research is about, what it is designed to achieve and how it is to be executed to a standard that convinces the DBA Research Committee that the proposed research is viable. The DBA Research Committee is a panel of applied research experts who critically review the research proposal in great detail and identify any areas of ambiguity or weakness so these can be corrected before the candidate proceeds to the next stage. It is, of course, imperative that any weaknesses in the research proposal are identified and corrected before the candidate moves on to implement the research.

1.2 Ten Questions on the Research Stage of the DBA Programme

1.2.1 Introduction

A good way to achieve an overview of the DBA research stage is to consider 10 frequently asked questions. The various terms and processes discussed in the questions and answers are all developed in more detail later in this module.

1.2.2 Ten Questions

What is the point of having a research stage?

The EBS DBA is a doctoral degree that is equivalent to a Heriot-Watt University PhD and, therefore, is examined in the same way and to the same standard. Under Heriot-Watt University regulations PhD and DBA degrees must contribute to the knowledge base in the relevant subject area. The research stage allows the candidate to either discover new facts or

demonstrate sufficient high-level critical reasoning to make a contribution to the knowledge base.

What is the output of the research stage?

The output is a doctoral thesis that is put forward for examination. The thesis is developed through a series of stages and conforms to a specified structure. The candidate writes up his or her research as a thesis and then presents it to examiners and defends it against critical review. If accepted, and after any corrections are made, the thesis is stored in the university library and in national libraries. As a doctoral thesis, it contributes to the knowledge base in the relevant subject area.

What do I have to do to complete the research stage?

6. *Complete the courses phase.* The candidate completes the courses required to provide the knowledge base and the *Introduction to Business Research* courses. Once all courses and examinations have been completed, the candidate is assigned a mentor and progresses to the mentored stage.
7. *Complete the mentored phase.* The candidate works with the mentor to produce a research proposal that is then submitted for formal review by the DBA Research Committee. The research proposal may be accepted or rejected. Once it has been accepted, the candidate progresses to the supervised stage.
8. *Complete the supervised phase.* The candidate works with the supervisor to design and implement the research and write up the thesis. The thesis usually comprises two elements:
   Element 1: the literature review submission, which comprises the introduction, literature review, literature synthesis, pilot study report and outline methodology chapters.
   Element 2: the final thesis, which includes the literature review submission (see above) plus the data collection and analysis, and results and conclusions.
9. *Present the thesis and defend it before examiners.* This usually comprises a verbal (or viva voce) presentation before examiners appointed by the university.

What is a research proposal and why do I need to do one?

A research proposal is a formal document that sets out exactly what is intended to be achieved in the research and how it is to be done. The research proposal is considered by the DBA Research Committee, and the candidate can proceed only when the Committee is convinced of the viability of the research proposal.

What is a mentor and why do I need one?

The mentor is a member of EBS faculty. He or she will guide the candidate as the candidate develops the research proposal. The mentor is necessary because most EBS DBA candidates have little or no research experience and, consequently, need some expert help in writing the research proposal and developing the necessary research skills to be ready to work with a supervisor. The mentor provides generic advice on the proposal and prepares the candidate to work with a supervisor.

When do I get a supervisor?

Candidates are appointed a supervisor as soon as possible after they produce a viable research proposal that is accepted by the DBA Research Committee.

What is a literature review submission and why do I need to do one?

The literature review submission is a formal document that comprises a series of draft chapters that will go on to form part of the final thesis. A typical literature review submission comprises an introduction chapter, a series of literature review chapters, a literature review synthesis, a statement of research aims and objectives and a section on methodology. The candidate can only proceed to the final stage of the research when the Research Committee is convinced of its continued viability.

How big is the final thesis?

The final DBA thesis is normally around 45 000 to 50 000 words including references and appendices. This compares to a typical PhD thesis that is usually not less than 45 000 words and not more than 80 000 words.

Under University regulations doctoral theses (DBA and PhD) shall not normally exceed 80 000 words and shall not normally exceed 400 pages in length including appendices. If a DBA thesis is likely to exceed 80 000 words or 400 pages including references and appendices, a case has to be made to the University prior to submission.

How long will it take me to finish the research stage?

The time required to complete the research stage depends on numerous variables, including the nature of the research, access to data and the time available to the candidate. As a rough guide an 'average' candidate with a demanding job and family commitments might expect to complete the research stage in three to four years. A candidate with no work or family commitments might be able to complete the research stage in two to three years.

How is the research stage examined, and when do I get my DBA?

The research stage is examined via thesis and oral examination by internal and external examiners. Once any required corrections have been made to the satisfaction of the examiners, the candidate is recommended for the award of the degree of DBA and the degree is conferred at the next congregation.

1.3 The EBS DBA Introduction to Business Research Courses Process Model

1.3.1 Introduction

The underlying rationale and fit between the three *Introduction to Business Research* courses is shown in the process model. A process model is a diagrammatic representation of a sequential process split up into its individual components and sub-components.

The sequence is as shown below.

- *Introduction to Business Research 1* explains the principles of research and how to prepare a viable research proposal.
- *Introduction to Business Research 2* explains how to design and conduct a review of the existing knowledge base and literature so that the proposed research can be located within the context of what is already known.
- *Introduction to Business Research 3* explains how to develop a research method that is both reliable and replicable, and how to collect and analyse data and present findings.

This sequence of progression matches that encountered in most academic and industrial research programmes. For example, a product developer working for a mobile phone manufacturer might be interested in developing a new type of handset that uses some kind of innovative touchscreen technology. The company has to be careful how it invests in the research and development of new products as the time and cost implications are considerable and the economic viability of the proposed new product can quickly change in a dynamic market.

The first step is to develop a presentation for review and (hopefully) approval by senior management. The presentation has to contain sufficient information for senior management to make an informed analysis and decision on the technological and financial viability of the proposed new product. It must, however, contain only relevant information. There is no point in including irrelevant content as this will slow the evaluation process down without adding value. In developing the proposal the product developer would identify the gap in the market, substantiate the case using market research results and support this with an indicative business case. The business case would detail likely development and production costs, research and development time estimates, time to market, etc.

This presentation is effectively a research proposal (*Introduction to Business Research 1*). Its purpose is to make a sufficiently strong case to convince senior management to commit to taking the development proposal to the next stage. If the research proposal is accepted, it does not mean the product will go on to be developed for full production or that the eventual produce will be a commercial success. Acceptance of the research proposal simply means that senior management think it has potential and are willing to allow more time and money to be committed to it so it can be developed in more detail at the next stage.

The next stage might be to develop the research proposal further by conducting a detailed analysis of the existing knowledge base on the proposed new product. The product developer might review a wide range of company and external information on touchscreen technology. This is effectively a literature review (*Introduction to Business Research 2*) as it is a wide-ranging and critical review of all that is known about what is likely to be involved in developing the proposed new product.

If approved, the next stage will be to put together a detailed research method for developing the new product. The researcher will be required to develop a clear and reliable research method that can be evaluated before the company commits to it. The research method will have to say exactly how the research is to be carried out, what the phases of new product development will be, what evaluation milestones or stages there will be, when the prototypes will be ready, how they will be evaluated, and so on. This process approximates to the research methodology (*Introduction to Business Research 3*).

This example of the early stages of new product development is illustrative of the general progression outlined in *Introduction to Business Research 1*, *2* and *3*. The *Introduction to Business Research* texts work both individually and as part of a suite. Individually they describe and develop parts of the overall process. Collectively they describe and develop the process of research from first principles to detailed implementation.
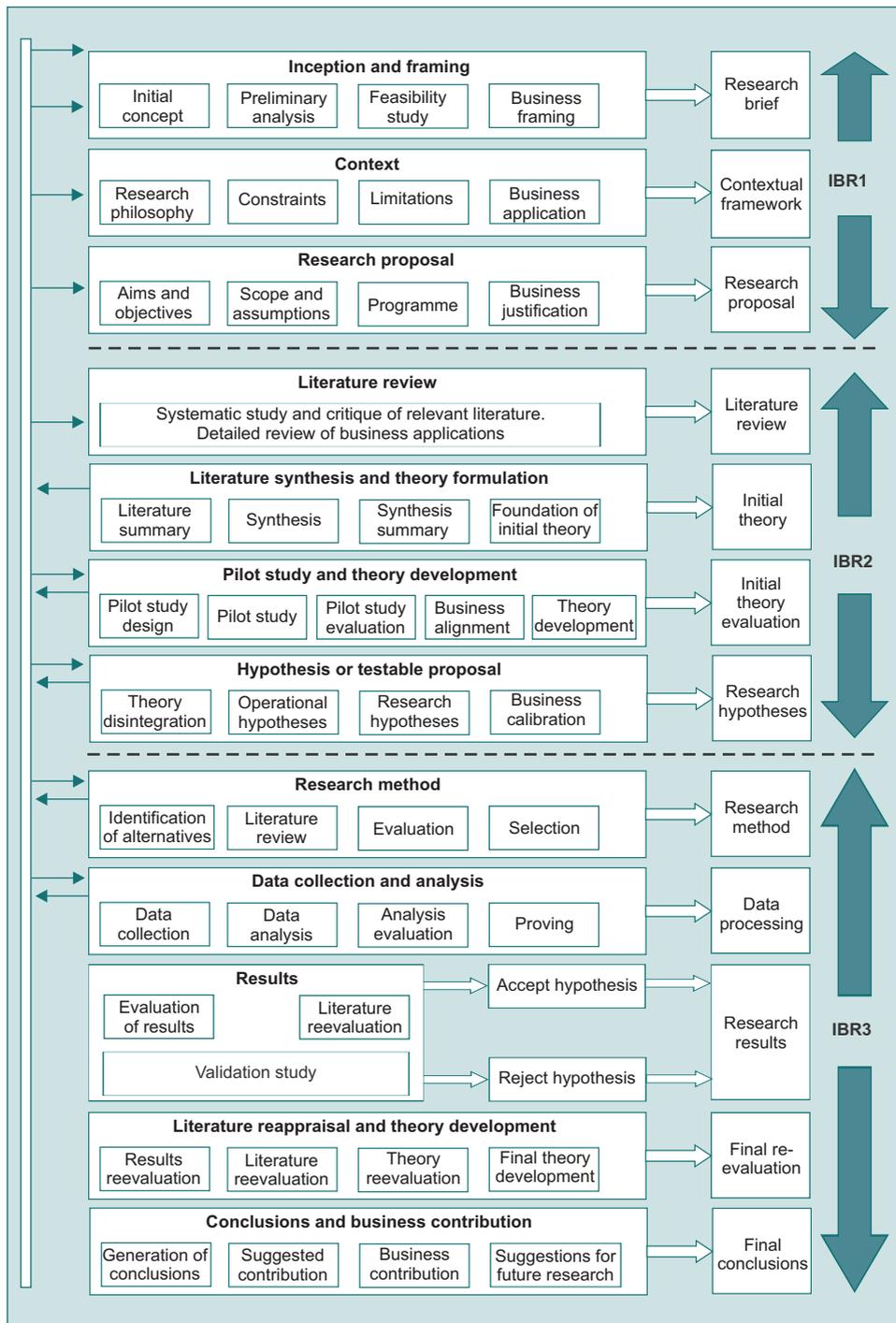
Figure 1.1   The full *Introduction to Business Research* process model
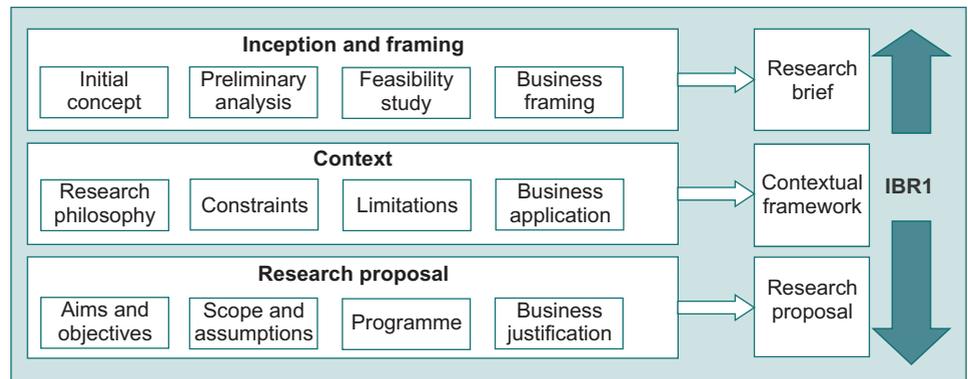
Figure 1.2 *Introduction to Business Research 1* **sub-process model**

1.3.2 The EBS DBA IBR 1–3 Process Model

The full process model for the *Introduction to Business Research* courses is shown in Figure 1.1. The sub-process model relevant to *Introduction to Business Research 1* is shown in Figure 1.2.

In *Introduction to Business Research 1* the candidate is provided with the information required to generate the research proposal.

Inception and Framing

The candidate develops an **initial concept**, which may be suitable for further development, and then carries out a **preliminary analysis** in order to evaluate the concept. In some cases it may be necessary to perform a formal **feasibility study**, in which the time required, resources available, deliverables and other practicalities are considered.

Context

A **research philosophy** or paradigm is selected for the proposed research. The candidate may choose to base the research on a quantitative approach or on a qualitative approach or a combination of both. The candidate considers time, cost or other **constraints** and factors that could limit the outcomes of the research. The final stage is to develop a clear applied **business application** for the research so that it is anchored in a real business context.

Research Proposal

The research proposal is the outcome of the framing and context sub-processes. It is a formal statement of the candidate's research intent in a standardised form that is evaluated by the EBS DBA Research Committee. It is either accepted or rejected depending on its viability and potential.

The EBS DBA Research Committee is a panel of EBS and external faculty members who review and critically evaluate each individual research proposal and recommend acceptance or rejection. The DBA Research Committee must be convinced the research proposal is sufficiently robust and viable before allowing the candidate to progress to the next stage, when a supervisor is appointed.

The format and presentation of the research proposal is discussed in detail in Module 6. The research proposal has three main components that must be borne in mind at all times:

1. Identify the research question, i.e. what is to be found out;
2. Describe how the data will be collected;
3. Show how the data will be analysed.

1.4 The EBS DBA Research Process

1.4.1 Introduction

The aim of the EBS DBA programme is to produce applied business **research profession-als** who can use their doctoral-level skills to real effect at senior executive level in a business environment. This differs from the typical aim of a Doctor of Philosophy (PhD) degree, which is to produce professional researchers who use their research skills with less direct application and more emphasis on theoretical and academic application.

The structure of the DBA differs from most PhD programmes in that it is composed of a courses stage and a research stage. A traditional PhD programme comprises little or no courses element, and the candidate focuses entirely on the research element. This is because candidates typically enrol on a PhD programme after completing a first degree and MSc. Some universities run overlapping PhD and MSc programmes, where PhD students are required to pursue a relevant MSc as part of the first year or first two years of the research programme.

The structure of the courses stage varies depending on the existing qualifications of the candidate. All candidates are required to complete *Introduction to Business Research 1*, *2* and *3* in sequence. Many candidates are required to complete additional subject-specific courses in addition to the *Introduction to Business Research* courses. By the time the candidate has completed the course stage, he or she has demonstrated a command of both the subject-specific and research-oriented skills necessary to prepare him or her for doctoral research, i.e. a basic working knowledge of how to prepare a viable research proposal, literature review and research methodology, and of how to write up the research in the form of a structured examinable thesis. This does not, of course, guarantee that the subsequent research will be successful.

1.4.2 The Concept of the Knowledge Base

Doctoral level research means research that contributes to the knowledge base in the chosen research area. *Knowledge base* means all published information in the research area. *Published information* includes everything from website articles to peer-reviewed research journal articles.

For example, if a candidate performs a literature search in the field of strategic risk inter-dependency, he or she might identify 10 000 published pieces of work ranging from PhD theses to newspaper articles. This is the literature base. The literature base is not the same as the knowledge base. For example, the literature base may contain two publications that say different things, and there may be two corresponding schools of thought within the knowledge base. In addition some published texts are more significant than others. For example, a published research paper in a top-ranking refereed research journal carries more knowledge-base and research significance than an unsubstantiated newspaper article. Both, however, represent part of the literature base.

The knowledge base is all the knowledge generated by and contained within the literature base, including all current theories, schools of thought, original ideas under development, etc. In doctoral-level research, the candidate is required to add to this knowledge base. There are two widely recognised ways in which this can be done. The first is by the discovery of new facts. For example, a researcher might prove a causal relationship between two variables where no such relationship had been shown to exist before. The second is by independent critical reasoning. For example, a researcher might demonstrate a new application for a known tool or model by applying it to a specific case.

It should be noted that the size of the knowledge or literature base in the chosen research area is very important. There are advantages and disadvantages associated with large and small literature bases. If the literature base is small, the candidate has plenty of scope for selecting a specific area that has not been researched before and it is easier to address the issue of originality. On the other hand, there is less literature on which to base the candidate's proposed research. There are fewer references that can be cited in substantiation of the proposed research design. In addition, the fact that there are few publications in an area may be a clear warning that the candidate should be wary of that area. In the case of a subject with a large literature base, the candidate may have more of a problem in defining an area where an original contribution can be made, but a large literature base means there is plenty of existing research upon which the proposed research can be based and is also indicative of the area itself being viable for research.

In other words, it is best to choose an area with a large literature base. An area with little or no literature base is likely to be non-viable. One of the first things the mentor will ask the candidate to demonstrate is that there is a viable literature base in the chosen research area.

The DBA Research Committee is likely to accept a research proposal for research in an area with a non-viable literature base only if the candidate is able to make a sufficiently strong and convincing case in support.

1.4.3   The Concept of the Doctoral Thesis

In order to complete the research phase and graduate with the degree of DBA, the candidate must design and implement the research programme and then write up an account of the research and the contribution to the knowledge base in a doctoral thesis. He or she must then defend the thesis before examiners.

There are numerous definitions of the word 'thesis' (pronounced *thee-siss*). Some examples are listed below.

- A lengthy academic paper: a research dissertation based on original research, especially as part of the work towards a higher academic degree.
- A proposition: especially one used as an argument or as the basis for an argument.
- A statement: especially an unproved statement that serves as a premise in an argument.

Physically, the doctoral thesis is a bound volume written by the candidate and submitted to the university. Successful theses are retained by the University and are stored in the University library. A copy is also retained by the UK National Library. The thesis is a permanent piece of work that is released into the public domain and is testament to the work of the candidate.

Some EBS DBA candidates, depending on their existing qualifications, may be familiar with the idea of a thesis and may have produced one as part of their earlier studies. In most

MBA courses there is no requirement for a separate research thesis and there is often little or no direct research in the syllabus. Some Master's degrees such as Master of Science (MSc) or Master of Philosophy (MPhil) require the preparation of a formal dissertation as a standard component of the course of study. Most MSc courses comprise a taught element and a research element. In most cases, therefore, the dissertation is completed in *partial fulfilment* of the requirements for the award of the degree. In most full-time MSc courses the student effort hours required for the dissertation are about equal to the total student effort hours required for the completion of the taught courses.

In most MPhil courses, the dissertation or thesis is normally completed in fulfilment of the requirements for the award of the degree, and there is no taught element. Some universities offer MPhil courses as being effectively an MSc by pure research. In other cases doctoral candidates may be initially required to register for an MPhil and then transfer to full PhD registration upon successful completion of the first year. In some cases, the research that has been developed in this time may not be of an acceptable standard, and the doctoral candidate remains registered for an MPhil and eventually is awarded the degree of MPhil for research.

A doctoral thesis, whether PhD or DBA, is different from both the MSc dissertation and the MPhil thesis. The basic structure may be the same, but the level of rigour and standard of outcome is highest in the case of the doctoral thesis. It is possible to complete an MSc dissertation or MPhil thesis successfully without demonstrating the discovery of new facts or making a contribution to the knowledge base. For example, it may be possible for a candidate to receive an MPhil degree without conducting any *original* research. The research could, for example, be restricted to a critical analysis of an extensive literature review in order to show patterns or trends in what the literature is suggesting. A doctoral thesis must both contribute to the knowledge base and be original work.

Most theses are structured using a number of common elements. These elements may sometimes be referred to by different names, but they generally contain the same basic components and contribute to the development of the thesis in more or less the same way.

The starting point in the development of a thesis is the production of a *research proposal*. Once approved, the research proposal acts as the foundation of the research that follows, and each section of the research proposal is developed in more detail as the final draft thesis is produced. The next stage is development of a critical literature review that demonstrates the candidate has developed a detailed knowledge and understanding of the relevant literature and knowledge base. Having developed this knowledge and understanding, the candidate develops a research problem or question. This is a simple expression of what the research is trying to achieve. The question is then used as the basis for developing a research aim and a series of research objectives. The aim expresses what the research is trying to determine, while the objectives express the measurable components of the aim. In many cases the candidate develops a testable theory or hypothesis that is developed directly from the literature review. The development of the theory or hypothesis often takes place after a pilot study in which the ideas suggested by the literature are investigated in a preliminary manner. In order to test the theory or hypothesis, the candidate has to develop a research method, which is the process used to collect and analyse data. The results are then processed and collated to produce conclusions.

The stages in the development of any thesis (discussed in more detail in later modules and also in *Introduction to Business Research 2* and *3*) can be summarised as follows.

- **The development of a research proposal**: where the candidate defines in detail what the research is intended to achieve and how it is going to be achieved.
- **The development of a literature review**: where the candidate demonstrates that he or she is familiar with the relevant published literature.
- **The development of a research question, theory or hypothesis**: where the candidate develops his or her own testable research question, theory or hypothesis based on the literature review.
- **The development of a research method**: where the candidate produces a reliable method for the collection and analysis of research data.
- **Data collection and analysis**: where the candidate uses the research method to collect and analyse research data.
- **The generation of results and conclusions**: where the candidate uses the research method and data collected to generate results and conclusions.

The completed thesis is written by the candidate and presented for examination. As with virtually all US and EU doctoral theses, the DBA is assessed at a viva voce or oral examination. The candidate presents the thesis before an internal (Heriot-Watt University) and an external (non-Heriot-Watt University) examiner. The examiners have to satisfy themselves on a number of key issues including the following:

- that the thesis is the candidate's own work;
- whether or not the thesis outcomes form a contribution to knowledge of the subject;
- whether or not the thesis affords evidence of originality;
- whether or not the originality element is supported by the discovery of new facts;
- whether or not the originality element is supported by the exercise of independent critical power;
- the extent to which the candidate understands the complexities involved.

These issues are discussed in more detail in subsequent modules.

The examination concludes with a recommendation from the examiners, who may award the degree of DBA or recommend the award of the degree subject to minor or major alterations. In extreme cases a thesis may be failed and no resubmission allowed. The most frequent outcome is that minor alterations are required.

It should now be clear that a doctoral thesis is a considerable undertaking and represents a major challenge. The challenge presented by the thesis in the research stage is different from that presented by the examinations in the courses stage. The candidate will be required to develop entirely different and new points of view and approaches if the research stage is to be successfully completed.

1.5   The EBS DBA Thesis

1.5.1   Introduction

The EBS DBA thesis is a doctoral thesis and contains the same level of rigour as a Heriot-Watt PhD. Both are examined using the same system of examiners, and both require candidates to develop the same level of research ability. Both are required to make a contribution to the knowledge base.

Candidates should refer to the University Regulations for confirmation of current thesis requirements. Some major considerations are considered below.

1.5.2 Thesis Size and Originality

Candidates normally aim to produce a final thesis of around 45 000 to 50 000 words including references and appendices. This target size is lower than the university requirement for a PhD thesis, which is 45 000 to 80 000 words. Although the EBS DBA thesis typically contains fewer words than a PhD thesis, the requirements for contribution to the knowledge base are no less demanding.

All parts of the thesis must be the candidate's own work. Candidates must ensure that they comply in all respects with current University guidelines on the issue of plagiarism. The candidate is required to sign a declaration that he or she has read the University guidelines on plagiarism and that the thesis complies in all respects with these guidelines.

The DBA Research Committee carries out a plagiarism check and reviews the draft literature review and methodology sections of the thesis before allowing the candidate to proceed to the main study (data collection, analysis, results and conclusions). The final thesis is approved by the Research Committee before submission for examination.

1.5.3 Thesis Contribution

University regulations require that the EBS DBA thesis or dissertation:

> […] shall form a contribution to the knowledge of the subject and afford evidence of originality, shown either by the discovery of new facts or by the exercise of independent critical power.

This requirement is very important and is broken down into its components below. The thesis shall:

- form a contribution to the knowledge of the subject; and
- afford evidence of originality by
  - the discovery of new facts; or
  - the exercise of independent critical power.

Consider each of these components separately.

- **Forming a contribution to the knowledge of the subject.** The DBA thesis must contribute to the relevant knowledge base as defined by the relevant publications. This requirement is one of the main reasons why a detailed literature review is central to the thesis: in order to demonstrate that he or she has made a contribution to the knowledge base, the candidate must first define the knowledge base itself through the literature review. This requirement could be interpreted as the production of a piece of knowledge that has not been published before.
  The contribution itself could be large or small. An example of large-scale contribution is the 1996 discovery of the link between Bovine Spongiform Encephalopathy (BSE) in cattle and Creutzfeldt-Jakob disease (CJD) in humans in the UK. This finding proved for the first time that prions (a form of protein) could cross the species divide between cattle and human beings. Most research produces a more modest contribution. As a result the knowledge base widens slowly as each individual researcher extends it at the margin.

In a business context a typical contribution could be to show that there is a link between the competency profile of two merging organisations and the short-term success of the merger. The competency profile could be defined as the range and levels of individual competencies at senior management level. It is important to keep the research focused, and it is advisable to define a relatively limited data set where possible: for example, the research might be restricted to the senior management levels within the sample organisations. The candidate might then establish a method for defining the competency profile of the two merging organisations. This could involve the development of a competency matrix where senior management competencies are portrayed in terms of range and level. When the profiles of the two organisations are transposed, the analysis may reveal overlaps in some areas and deficiencies in others. The candidate might then show in a detailed case study that, the better the fit between the profiles, the higher the short-term success of the merger. The 'success' could be defined by several measures, including increased shareholder value, integration speed, merger cost and so on. The candidate might then develop results and attempt to validate them by conducting smaller cross-sectional studies across a range of similar organisational types. The outcome may be a statistical analysis showing that, the better the competency profile fit, the more successful the merger, in a manner that is statistically significant.

The research should be designed in such a way that it produces a contribution to the knowledge base regardless of the actual results. For example, a researcher might analyse a large sample and conclude that there is strong evidence for a causal link between variables A and B. Another researcher might conduct similar research and find there is no evidence of a causal link between B and C. Both researchers can use the results to contribute to the knowledge base. It is just as valid a contribution to demonstrate no association as it is to demonstrate association.

Another example could relate to cultural differences. For example, a prediction model might be developed in the US and applied and tested over a long period with the result that it is regarded as reliable for use in the US. A researcher might then try to apply the same model in Western Europe. The US-applicable tool may or may not work in the same way in Western Europe. The researcher could make a contribution by showing that the tool (a) works the same in Western Europe, (b) works differently in Western Europe or (c) does not work at all in Western Europe. Any of these three outcomes would make a contribution to the knowledge base.

- **Affording evidence of originality.** This overlaps with the preceding component. The contribution made to the knowledge of the subject thesis has to be original. Replicating existing research results (known as *corroboration*) can strengthen results but does not involve original thinking. It is not always possible to be truly original, and the examiners make a trade-off between the quality of the other aspects of the thesis and originality.

- **Evidenced by the discovery of new facts.** This is similar to the requirement for originality and for the results to make a contribution to the knowledge of a particular subject. The discovery of new facts is, by definition, originality. As in the case of originality, the examiners make a trade-off between reinforcement of existing facts and the other aspects of the thesis.

- **Evidenced by the exercise of independent critical power.** This is likely to be the most important to many DBA candidates. Consider some possible definitions of the words *independent, critical* and *power*.

- Independent: not influenced or controlled in any way by other events, people or things.
- Critical: giving opinions or judgements.
- Power: a natural skill or ability to do something.

'Independent' in a research context means *not influenced* or *not controlled*. This comes back to the requirement for *originality* and *original work*. In the same context 'critical' means being able to offer opinions or judgements on both the literature and the research findings. 'Power' refers to the ability to offer these *independent* and *uncontrolled* judgements. This sentence of the regulation is very important because it is likely to be the approach that a significant proportion of DBA theses adopt. A candidate can evidence originality by developing independent opinions or judgements about, for example, a real business case; this forms a contribution to the knowledge base.

1.5.4   Thesis Development Stages

The EBS DBA thesis development stages are discussed in more detail in this course and in *Introduction to Business Research 2* and *3*. The purpose of this introductory section is to provide a basic overview as a foundation for the development of a more detailed understanding as the candidate progresses through the research courses.

The EBS DBA is structured to contain a number of distinct progression milestones. These are summarised below:

- Milestone 1: entry to the programme.
- Milestone 2: completion of the *courses stage*.
- Milestone 3: working with the mentor to complete the *research proposal*.
- Milestone 4: working with the supervisor to complete the *literature review submission* (comprising literature review, literature synthesis, research methodology, etc.).
- Milestone 5: working with the supervisor to complete the *thesis* and successful *viva voce*.

Milestones 3 to 5 are relevant to the research stage. They effectively define three distinct elements in the development of the research. These stages are listed below.

- Stage 1: the *research proposal*.
- Stage 2: the *literature review*, *synthesis*, *research hypothesis* and design of the *research method*.
- Stage 3: implementing the *research method*, *data collection*, *analysis*, *results* and *write-up*.

These stages are reflected in the content of the DBA core courses *Introduction to Business Research 1, 2* and *3* respectively. The contents of the three *Introduction to Business Research* courses are discussed in more detail later in this module. *Introduction to Business Research 1* defines the research knowledge and understanding necessary to progress through stage 1 (the research proposal) and past milestone 3. *Introduction to Business Research 2* defines the corresponding skills required to progress through stage 2 (the literature review submission) and past milestone 4. *Introduction to Business Research 3* defines the corresponding skills necessary to progress through stage 3 (the research method) and past milestone 5.

Stage 1: The Research Proposal (the Mentored Stage)

Note: Candidates should refer to subsequent sections of the *Introduction to Business Research* course texts for further details on the roles and responsibilities of the mentor. This section is intended to give a broad overview only.

In stage 1 candidates complete the *Introduction to Business Research 1* course and work with an EBS mentor to develop a research proposal. The research proposal is then submitted to the EBS Research Committee for consideration. If the research proposal is rejected, it will be returned to the candidate with a review or further works required. The candidate must continue to develop the research proposal until a standard is achieved where it is accepted by the EBS Research Committee.

In developing the research proposal, the candidate is offered guidance by a mentor. The mentor is not empowered to give direction. He or she is empowered only to read the research proposal as it develops and offer guidance and advice. The fact that the mentor has read a completed research proposal does not imply that the research proposal may not be subsequently rejected by the EBS Research Committee.

The mentoring role is generic because the mentor might not be (and does not need to be) an expert in the specific research focus chosen by the candidate. The mentor provides advice on all aspects of the research proposal from finding and reviewing literature and developing a background literature review to developing research aims and objectives, methodology options, etc.

EBS also offers specialist pre-mentoring or supplementary mentors in a selection of popular research specialisms including finance, human resource management, strategic planning and marketing. Specialists are available to offer subject-specific advice either before or after a mentor is appointed. For example, the generic mentor may be mentoring a research proposal based on some aspect of applied financial management. The mentor may feel competent to offer help and advice on all aspects of the research proposal with the exception of one area that is highly specific to some aspect of applied financial management. In such cases the mentor can call in the services of the subject-specific supplementary mentor to offer subject-specific advice as a supplement to the mentor's generic advice.

The mentor works with the candidate until there is agreement that the research proposal is ready to be submitted for formal review by the DBA Research Committee. But, even if the research proposal is accepted by the EBS Research Committee, this does not mean that it will necessarily be developed into a successful thesis. Acceptance simply means that the Research Committee feels that the research proposal shows sufficient potential and promise to be worth developing to the next stage.

Stage 2: The Literature Review and Research Method

Note: Candidates should refer to subsequent sections of the *Introduction to Business Research* course texts for further details on the roles and responsibilities of the supervisor. This section is intended to give a broad overview only.

Once the research proposal is accepted, and provided the taught stage has been successfully completed, the candidate is matched with a supervisor. Every effort will be made to match students with a supervisor who has related research interests and (if possible) is located in the same country or continent.

In stage 2 the candidate develops a literature review submission, comprising a literature review, literature synthesis, research question, theory or hypothesis, and a research method. As with the research proposal, the literature review submission must be developed to a standard that is accepted by the EBS Research Committee. If the literature review submission is not acceptable, it will be returned to the candidate with an indication of the review or further works required. With the assistance of the supervisor, the candidate must then

continue to develop the literature synthesis until a standard is achieved where the document is accepted by the EBS Research Committee. The candidate can resubmit the literature review submission a maximum of two times. If the document is rejected for a third time, the candidate would normally be required to withdraw from the DBA programme.

Stage 3: Research Method Implementation, Data Collection, Analysis, Results and Write-Up

In stage 3 the candidate is required to implement the research method designed in stage 2. This usually involves carrying out some kind of data collection and analysis. For example, the candidate might conduct a series of interviews and use the responses to provide data that is then processed and used as the basis for testing one or more stated hypotheses. The method of analysis could be based on quantitative (numerical) analysis, qualitative (alphanumeric) analysis or, ideally, on a combination of the two approaches. The research method must be scientifically credible and ideally should be capable of replication. The analysis must be logical, investigate the data in the way intended and generate a clear set of research results. In most cases the results will consist of a comparison between the actual results and what was proposed by the hypothesis. The candidate must also offer a clear set of conclusions and suggestions for further research. The final thesis is then formally submitted for examination when the supervisor considers that the document is to an acceptable standard.

Assessment is by formal viva voce examination comprising the candidate, internal examiner, external examiner and supervisor.

There is no guarantee that the internal and external examiner will pass the final thesis. Success depends on the extent to which the examiners consider that the research aims and objectives are achieved and the way in which this is carried out.

1.5.5   The Structure of the Thesis

The recommended structure of the EBS DBA thesis is discussed in more detail in this course and in *Introduction to Business Research 2* and *3*. The purpose of this introductory section is to provide an overview that acts as a foundation for the development of a more detailed understanding as the candidate progresses through the research courses.

There is no single international standard generic framework for a doctoral thesis. The format and balance between sections varies depending on the research area under consideration. The candidate can elect to structure the thesis in more or less any way that he or she thinks fit. The supervisor will, however, almost certainly suggest a format that includes the following sequence.

- Preliminaries.
- Introduction.
- Literature review.
- Research question, theory or hypothesis.
- Research method development.
- Data collection and analysis.
- Conclusion

In an 'average' doctoral thesis, the possible chapter headings might be as discussed below.

Please note that the word count figures are indicative only. The word count for each section could be higher or lower than those suggested below, and the candidate should not feel constrained by the figures shown.

- **Preliminaries.** This section includes the title page, acknowledgements, list of contents, list of figures and tables, and list of appendices. The preliminaries section includes an abstract that provides a summary of the research, including the primary findings. Abstracts are used by other researchers when they are conducting literature reviews. Abstracts should be no longer than a few hundred words, and should be worded so that another researcher can obtain a 'flavour' of what is included in the thesis by reading the content of the abstract and nothing else. There is a required format of the layout of the title page and the sequence of acknowledgement, table of contents, list of figures, etc. This format is defined in the separate summary provided in the handbook.
- **Introduction.** The introduction section should typically be 1000–2000 words long. It should contain a brief summary of the main aims and objectives of the research, together with a summary of any assumptions and limitations that apply. The introduction should also clearly establish the scope of the research, and should identify any areas that have been omitted, with justifications. A reader should be able to develop a reasonably clear picture of the research areas simply by reading the introduction.

  It is natural to assume that the introduction chapter should be written first. In fact doctoral research is highly fluid, and there may be several modifications to the development of the research that take the development away from what was originally planned. As a result the introduction chapter is often one of the last parts of the thesis to be written.

  Modifications and minor changes in direction are permissible, but the supervisor will almost always recommend against any major changes in aims and objectives as the research progresses. It is very important that the initial aims and objectives are carefully researched and thought through because the aims and objectives are central to the direction of the development of the research. If they are subsequently changed, the research already conducted may be aborted, and valuable time could be lost. The EBS Research Committee also looks out for any divergence in original aims and objectives as the progress reports are submitted. The Committee will request a justification for a report that contains evidence of a significant shift in aims and objectives.
- **Literature review.** A literature review can comprise one or more chapters, and the layout and content of the chapters reflect the content of the thesis title. For example, a thesis might have the following title:

  > An investigation into the effectiveness of contemporary strategic planning implementation systems in the integration systems of large-scale merger and acquisition implementation processes in the UK financial sector.

  This title includes the following important components:
  – the effectiveness of contemporary strategic planning implementation systems;
  – integration systems;
  – large-scale merger and acquisition implementation processes;
  – the UK financial sector.

  The sample title suggests that the structure of the literature review should be four chapters as listed above. Each chapter should survey the literature in each of these areas, and, although each chapter addresses a different subject area within the title, it is important that the chapters are linked. The objective of the literature review is to demonstrate an understanding of the existing research knowledge base. The existing research base is likely to cross title subject barriers, and it is important that the literature review also does this. The literature review also acts as the basis for the research question, theory or hy-

pothesis. It is important to show that this question, theory or hypothesis has been developed by the analysis of the literature, rather than having been 'thought up' by the candidate.

Linkage between literature review chapters can be achieved in a number of ways. The most obvious way is to end each chapter with a brief summary and overview of the subsequent chapter, explaining how it relates to the current chapter. In the example above, the Chapter 1 summary could include a section on how integration is an essential component of strategic planning implementation systems in mergers. Companies merge in order to fulfil strategic objectives. The success of the merger, and therefore its contribution to the achievement of the strategic objectives, is a function of how well the various stages of each company can actually be integrated. The wording should be appropriate to the link between these two areas.

Another way to achieve linkage is to cross-reference. This approach can be used increasingly as the literature review develops. Themes and areas developed in one literature review chapter can be raised again in a subsequent chapter and developed further in the context of the subject matter. For example, a point on strategic planning integration linking the first two review chapters could be raised and developed further in the mergers and acquisition chapter. The use of cross-referencing, especially if it is focused and related, can greatly assist in the development of a strong central theme running throughout the literature review and linking the various chapters. Ideally, this should evolve naturally from the literature review, including a combination of published facts and the candidate's own deductions and observations, building up in a logical progression towards the eventual research question, theory or hypothesis.

Sometimes studies arrive at different conclusions. The candidate must be able to evaluate the studies in terms of their validity and statistical significance in order to assess their contribution to the research issue.

While the literature review may run to several chapters, it must not be so large that it cannot be contained within the standard word limits that apply for a DBA thesis. As outlined above, the normal size of the EBS DBA thesis is around 45 000–50 000 words (about 200 pages). This word count range includes the introduction, literature review, methodology, analysis, results and conclusions, etc. In many cases the literature review and synthesis make up about half the final DBA thesis, depending on the size of the existing literature base, so an average literature review and synthesis might be 10 000–15 000 words. In cases where the existing relevant literature base is small, it could be considerably less.

- **Literature synthesis and generation of hypotheses.** It is not sufficient simply to review and accept what other researchers have published. It is necessary to include critical analysis. The candidate must demonstrate understanding of the literature, using his or her own reasoning and deductive skills to evaluate critically both individual and collective publications. At this point it is worth recalling University regulation 8.11, which calls for original work evidenced by *the exercise of independent critical power.* In the literature review the candidate should demonstrate an ability to compare sometimes contradictory theories or concepts and justify any decision as to their validity. This concept is discussed in more detail in *Introduction to Business Research 2.*

This chapter synthesises the literature. 'Synthesis' means identifying the main themes in the literature, combining them into cohesive logical progression and identifying the current state of the art. Synthesis is essential because the chapters suggested by the thesis title typically cover different disciplines. The key to a successful literature review is to

become familiar with each of the literature areas, summarise each one and then draw out the connections between them in the synthesis chapter. The synthesis is used as the basis for the generation of a research theory, question and hypothesis.

The outcome of the literature review and synthesis is a theory, research question and hypothesis suitable for testing and analysis. The linkage between the literature synthesis, the critical evaluation of the primary emergent points from the literature and the development of the theory, research question and hypothesis should be clear and logical.

- **Pilot study and theory/hypothesis and refinement.** The pilot study is not always necessary, but it is advisable to carry it out where appropriate. It is often advisable to test the research theory or hypothesis with a pilot study before embarking on the full research analysis. A pilot study, as the name suggests, is a short testing study used to act as a pilot for the main study that is to follow. The pilot study could include a relatively small sample size and focus on one or more of the numerous central areas of the primary research hypotheses. If the main study is designed to be based on questionnaires and interviews carried out with 50 companies, the pilot study might include three or four such companies in a preliminary evaluation. The main purpose of the pilot study is to test the reliability of the chosen research method.

  The pilot study fits into the stages of developing a formal theory, research question and the hypothesis, as below. These stages are discussed in more detail in Module 3.

  1. Literature review.
  2. Literature synthesis.
  3. Basic theory.
  4. Pilot study.
  5. Pilot study outcomes.
  6. Synthesis of the pilot study outcomes and the literature synthesis.
  7. Formal theory.
  8. Research question.
  9. Research aims and objectives.
  10. Research hypotheses.
  11. Operational hypotheses.

  Having completed the literature review and synthesis, the candidate develops the basic theory. The candidate then designs and implements a pilot study in order to evaluate this basic theory and the methodology to be used in the main study. The pilot study generates results that are synthesised with the results of the literature synthesis in order to evaluate the compatibility between what the pilot study indicates and what the literature synthesis indicates. Depending on the compatibility between these new elements, the basic theory is adopted or developed to become the formal theory. The formal theory is then expressed in terms of a research question. The research programme is then developed around this question and is expressed in terms of formal aims and objectives. These are then expressed in terms of research and operational hypotheses. This approach is considered in more detail and with examples in Module 3.

  In many cases the pilot study (if properly designed and implemented) can suggest new areas of interest extending beyond what is supported in the literature.

- **Research method.** After refining the research hypothesis or theory through the results of the pilot study, the next stage is to design a suitable research method. The research method is essentially the same as a recipe for baking a cake. The various ingredients and actions are written down so that anybody reading the recipe can bake the desired cake provided they follow the instructions. In theory, if every cook uses the same recipe, and

follows it exactly, all the cakes produced will be the same. The same philosophy applies to research method design. The research method chapter must contain sufficient detail so that any other researcher can use the same design and method to obtain the same results. This concept gives rise to the research requirement of *replicability*. The research method should be reported in sufficient detail so that another researcher can obtain the same results by using the same data set. Most research is valueless without the replicability factor.

Replicability is a fundamental requirement in the physical sciences and engineering but is less important in the economic and social sciences. In the DBA thesis the examiners may or may not look for a degree of replicability, depending on the research topic. For example, in the case of a large sample analysed using a highly quantitative approach, it may be possible to achieve a high degree of replicability. In other cases, such as indicative applied research conducted on a single organisation, it may not be possible to achieve a significant degree of replicability because of the unique characteristics of the organisation.

Thus, while a degree of replicability is desirable in economics and social sciences research, it is not always essential. A candidate could produce an adequate DBA thesis with a low degree of replicability.

- **Data collection and analysis.** In applied business research, data are usually collected through a structured observation, questionnaire or interview, often associated with the abstraction of data from company files and records. The analysis of the data can range from relatively simple to quite advanced statistical techniques. In the applied business field the most useful research often includes a combination of quantitative (number crunching) and qualitative (descriptive) data. In business research the basic patterns and trends are usually revealed by statistical analysis and are then explored and developed using a combination of further quantitative and qualitative approaches.

- **Results.** The results are the outcome of the analysis. Results provide the basis on which the main research theory or hypothesis is either accepted or rejected.

  Straightforward hypothesis acceptance or rejection may not be the only approach to results and conclusions in business research. In some cases it might be appropriate to modify a theory and/or hypothesis.

- **Literature reappraisal and theory development.** The results of the research can be used to reappraise the literature and develop the main research theory or hypothesis. Given the research timescales involved, the initial literature review may have been conducted months or years before the final research results emerge. As a consequence, the initial review may become out of date as new publications emerge. In addition, the literature may actually support the results in ways that were not envisaged at the time that the original literature review was conducted. Doctoral research often throws up new and unforeseen results. Some of these results may be suggested in the literature but have been overlooked when the literature review was conducted. It is necessary to go back through the literature, update the review, and look for evidence supporting any new or unexpected findings.

  A validation study can be carried out at this stage, although it is not typically necessary for the DBA. A validation study strengthens the research by recourse to a different set of data sources. Qualitative validation can be particularly useful in validation studies. The results of the research will be significantly reinforced if a validation study is carried out that shows that a high proportion of (for example) senior managers in the same field agree with them.

- **Conclusions and suggestions for further research.** The final stage of the thesis is to derive final conclusions and identify suggestions for further research. The final conclusions are developed from the analysis of the results and are refined by the literature re-evaluation and any validation studies. The suggestions for further research are intended to identify potential research areas that are outside the scope and range of the current research but that are useful and promising areas for other researchers to develop. The candidate should be entirely honest about the limitations of the research. This will pre-empt potential criticisms from the examiners. For example, no methodology is ever perfect and there will always be aspects of the research design that could have been improved and areas of the data collection and analysis processes that could have been modified to improve effectiveness and efficiency.

1.6   The People Involved in Supervision and Assessment

1.6.1   Introduction

The design and implementation of a doctoral research programme is a major undertaking, and, unlike the courses stage, candidates do not work through the research stage alone. DBA candidates who have little or no experience of research could not successfully complete a doctoral-level research programme without the assistance of an experienced and qualified academic advisor. A doctoral research programme requires a high level of analysis, and the thesis is subjected to the most rigorous levels of scrutiny to ensure that it is of a sufficient standard for the degree to be awarded. Heriot-Watt University regulations, in common with those of most US and European universities, require a doctoral thesis to be examined by a combination of internal (members of the University faculty) and external (members of other university faculty) examiners.

This section gives a brief overview of the people involved in supervising and examining a doctoral thesis. Candidates should refer to the handbook for a more detailed description of the role of the individuals concerned.

1.6.2   The People Involved

The EBS DBA is an international programme with students all over the world. The programme is based around a nucleus of EBS faculty, based in Edinburgh, who manage an international network of DBA candidates and research specialists acting as mentors, supervisors and examiners.

1.6.2.1   The EBS DBA Research Committee

The EBS DBA Research Committee oversees the management and development of the research stage of the DBA programme. The Committee has a wide range of responsibilities, including the review of draft research proposals and literature reviews and developing policy and procedures. The Committee meets as and when required by the demands of the programme. Meetings are held every six weeks or so and more frequently during periods of heavy demand.

From the candidate's point of view the main duties of the Research Committee revolve around the review and evaluation of the research proposal and literature review submissions.

The research proposal (milestone 3: *see* Section 1.5.4) and literature review (milestone 4: *see* Section 1.5.4) are submitted by the candidate for formal review by the DBA Research Committee as and when they are completed. These submissions are evaluated in detail and discussed at a formal Committee meeting. Having discussed the reviews, the Committee issues one of two rulings:

- The research proposal or literature review submission is accepted.
- The research proposal or literature review submission is rejected.

In the case of a rejection, the DBA Research Committee provides a summary of those areas that still need to be addressed, and the research proposal or literature review is returned to the candidate for further development.

The DBA Research Committee comprises members of the EBS faculty and some external members. The members of the Committee are all qualified to doctoral level and have all supervised at least one doctoral research programme to successful completion, and most hold *professorial* status.

The DBA Research Committee acts as the primary quality control regulator in the DBA programme. While the Committee is responsible for appraising the standard of all DBA research proposals and literature reviews, the Committee does not have any authority over the award of the degree of DBA. The DBA Research Committee is responsible for considering DBA research proposals and literature reviews and expressing a non-legally binding opinion on whether or not sufficient progress has been made and on whether or not the research proposal contains sufficient potential for successful development.

The final decision on whether or not the research element has been successfully completed lies with the examinations board (see below). The fact that a research proposal or literature review has been accepted by the EBS Research Committee does not imply that the candidate will necessarily go on to successfully complete the research element and be awarded the degree of DBA.

1.6.2.2   The Mentor

Most DBA programme candidates have little or no previous applied research experience. Therefore, the majority of candidates would find it very difficult to produce a viable research proposal without expert guidance. The candidate cannot be matched to a supervisor until the research proposal has been completed and accepted, so it is necessary to have generic rather than subject-specific guidance at this stage.

The mentor is an experienced researcher whose role is generic: the mentor provides advice on the structure and content of the research proposal and on a range of issues such as sources of literature, developing a critical review, basic research design, etc. The mentor effectively prepares both the student and the research for the supervised stage. The student is not allocated to a supervisor until he or she has developed (a) sufficient knowledge and understanding of applied research design and (b) a viable research proposal. This system minimises student 'warm-up time' in the supervised phase and facilitates the early development of the student–supervisor relationship.

The mentor establishes contact with the candidate and then provides him or her with general guidance for the duration of the development of the research proposal. Most of the communication between the candidate and the mentor takes place using web-board

messages. In some cases mentors and candidates prefer to discuss the research by telephone. This is acceptable provided a summary of each conversation is recorded on the web board.

The role of the mentor is advisory, and the candidate may disregard any advice that is offered if he or she so chooses – at his or her own risk. The mentor is a highly experienced researcher with considerable supervision experience, so when the mentor offers advice it is for a good reason and the candidate would be most unwise to disregard it. In cases where the candidate does refuse to accept the advice of the mentor, the DBA Programme Director may intervene. In extreme cases where the candidate refuses to take the mentor's advice and the advice of the DBA Programme Director, the DBA Research Committee will intervene and may recommend termination of the research.

Some candidates prefer to work with minimal interaction with the mentor, whereas other candidates make extensive use of the mentor. The degree of interaction is largely the choice of the candidate.

While the mentor will make every effort to assist the student in the development of the research proposal, the involvement of the mentor does not guarantee that a research proposal will achieve a standard where it is accepted by the DBA Research Committee. Some candidates may not be capable of producing a suitable research proposal, irrespective of the degree of support and advice offered by the mentor.

1.6.2.3 The Supervisor

The supervisor takes over from the mentor after the DBA Research Committee approves the research proposal. Unlike the mentor, the supervisor is a subject expert in the chosen research field.

Supervisors are drawn from EBS faculty, Heriot-Watt University faculty and faculty from business schools worldwide. Supervisors are qualified to PhD or DBA level, have published work to their credit and have supervised at PhD or DBA level to successful completion. The supervisor directs and advises the candidate through the literature review and the data collection, analysis, results and write-up phase.

Where possible, supervisors are allocated on a geographical basis so that the supervisor and candidate are within a reasonable distance of each other. Close proximity is, however, not essential, and in most cases it is not even necessary. Most candidates and supervisors work together effectively using web-board and email exchanges backed up by occasional telephone discussions.

1.6.2.4 The Senior Supervisor

The Senior Supervisor oversees the individual supervisors and acts as a moderator. The Senior Supervisor usually has no direct contact with candidates. The Senior Supervisor monitors the web-based exchanges between the student and the supervisor, making sure that an adequate number and frequency of exchanges are taking place. The Senior Supervisor also provides a second informed opinion on the formal progress reports (*see Introduction to Business Research 2*) that are completed by the candidate at regular intervals through the supervised phases of the research. All formal progress reports have to be 'signed off' by both the supervisor and the Senior Supervisor. The EBS Research Committee relies on the Senior Supervisor for quality assurance.

The Senior Supervisor is responsible for the identification and selection of potential new supervisors. When the candidate has progressed through mentoring, the Senior Supervisor

matches the candidate with a potential supervisor. The Senior Supervisor evaluates potential new supervisors and inducts them into the EBS DBA system.

The Senior Supervisor is also responsible for the selection and appointment of both internal and external examiners.

1.6.2.5   The Internal Examiner

Doctoral-level theses are examined by an examinations board that includes internal and external examiners. The internal examiner is a member of the EBS faculty or of another faculty within Heriot-Watt University.

The internal examiner is responsible for examining the doctoral thesis in order to ensure that it complies with university regulations relevant for the award of the degree. The internal examiner accompanies the external examiner (see below) at the viva voce examination of the thesis. The internal examiner reads the thesis in detail prior to the examination and then, along with the external examiner, asks relevant questions about the thesis. When the oral defence is complete, the internal examiner discusses the thesis and the defence with the external examiner. The supervisor may be present but is not usually required to contribute. The supervisor is not permitted to argue in support of the thesis or the presentation but may be called upon by the examiners to clarify points.

If the thesis is not of the required standard, the examiners may require amendments. In the case of minor amendments the internal examiner may assume responsibility for ensuring that any such corrections are made without further recourse to the external examiner.

1.6.2.6   External Examiner

The external examiner is a member of the faculty of another university. The external examiner could be selected from another UK university or from a suitable university anywhere in the world, or may be a practitioner working in a company or other organisation provided he or she fulfils the requirements for appointment as an external examiner. All external examiners are subject to approval by the Senate of Heriot-Watt University.

The external examiner receives a copy of the thesis and reads it in detail before the examination. He or she normally assembles a list of questions or notes and uses these as a basis for the questions and discussion that take place in the examination.

At the end of the examination, the external examiner discusses the thesis and presentation with the internal examiner. They agree on a decision and complete a report.

The concept of defence is central to Western doctoral thesis examinations. The viva voce examination is a demanding test, and the candidate must be properly prepared and ready to defend the thesis in front of an examiner he or she has never seen before. Defences where the candidate is not absolutely certain of the details of the methodology and existing literature can be disastrous.

1.7 The Introduction to Business Research Courses

1.7.1 Introduction

This section gives a brief overview of the three EBS DBA *Introduction to Business Research* courses. It is important that candidates understand how the three courses work together to provide a generic foundation for business research and research methods. The courses are designed to take the candidate from a level of no knowledge or understanding of applied business research to a level of understanding at which he or she can work with a designated supervisor and develop a doctoral-level research programme.

The supervisor is responsible for assisting the candidate in developing the research method and provides direction on more advanced and specific aspects of research methodology applicable in each case. The DBA *Introduction to Business Research* courses do not attempt to develop an understanding of advanced and specific methodologies because the choice of appropriate method will depend on the research problem being addressed. The DBA business research courses develop a generic understanding of how to design and conduct a research programme and how to write a thesis for presentation to an examination board.

1.7.2 Aims and Objectives of the Courses

There are three DBA *Introduction to Business Research* courses:

- *Introduction to Business Research 1*: the research proposal.
- *Introduction to Business Research 2*: the literature review, synthesis and research hypothesis.
- *Introduction to Business Research 3*: the research method, data collection, analysis, results and write-up.

The courses are self-contained, but they link together in developing the phased skills required in the development of the thesis. On completion of the EBS DBA course *Introduction to Business Research 1*, candidates should be able to produce a fully detailed research proposal to the standard required by the DBA Research Committee.

On completion of the EBS DBA course *Introduction to Business Research 2*, candidates should be able to produce a fully detailed and comprehensive literature review that is of a sufficient standard to be accepted by the DBA Research Committee.

On completion of the EBS DBA course *Introduction to Business Research 3*, candidates should be able to complete the research and develop the thesis to a standard acceptable for presentation and viva voce.

1.7.3 Introduction to Business Research 1

Introduction to Business Research 1 takes the candidate from an assumed zero knowledge to understanding how to prepare a formal research proposal.

Most entrants to the DBA programme will not have done any in-depth postgraduate research. Some entrants, such as those with MSc degrees, may have some experience of conducting postgraduate research for a dissertation that acts in partial fulfilment of the requirements for the award of that degree. Other entrants, such as those with MBA degrees, may have little or no experience of research at any level. It is, therefore, necessary to establish a basic understanding of what research is and how it is carried out. The course introduces the concept of research, the quantitative and qualitative research philosophies and

advice on developing a research focus from business issues. The course also develops the mechanics involved in preparing a formal research proposal from first principles, which includes development of the logistics of a research programme and timetable.

The course includes some elements of literature review and research method design, as these are important elements in the development of the research proposal. The research proposal must contain references to the literature to outline what is already known, because the research objectives and method must be based on the existing literature, and the research hypothesis or theory must be an extension of this literature base. In order to avoid rejection by the EBS Research Committee, the research proposal must show evidence of a potential to contribute to the knowledge of the selected subject and offer the potential to allow the discovery of new facts, or the potential for the candidate to exercise independent critical power.

1.7.4 Introduction to Business Research 2

Introduction to Business Research 2 shows how to develop a literature review from the research proposal. The literature review enables a suitable research hypothesis or theory to be developed and an appropriate research method to be identified.

Candidates must develop an understanding of the role of the literature review. Developing and submitting a doctoral thesis is essentially the same as presenting a case in court. Assertions (apart from those directly provable by experimentation) are inadmissible. All statements must be supported by appropriate **references to the literature**. For example, a candidate might make the statement 'Business productivity is a function of employee motivation.' To some extent the statement is obviously true. However, the extent to which it is true is unclear because there are a number of other issues and functions involved. It is, therefore, necessary to substantiate any such comments with references to the literature. In a typical reference the information contained would comprise:

- the name of the author;
- the year of publication;
- the title of the journal or other type of publication involved;
- specific identification material such as the volume of publication and the page numbers concerned.

For example, the statement 'Business productivity is a function of employee motivation' may have been made by Dr Joe Bloggs in an article published on pages 22–44 in Volume 27 of the *Journal of Applied Nomenclatures* in 2004. In the course this reference might appear as:

Business productivity is a function of employee motivation (Bloggs, 2004).

The full reference in the references section of the thesis might appear as:

Bloggs, J. *Journal of Applied Nomenclatures,* Volume 27, 2004, pp 22–44.

The use of a referencing system allows readers to see quickly that the course is reinforced by the literature. In addition, the reference identifies the exact location of the materials cited in support of the statement. If there is any doubt, readers can access the full reference and check it for themselves. Informed readers (such as supervisors and external examiners) will be familiar with the literature and will expect references to prominent researchers.

1.7.5 Introduction to Business Research 3

Introduction to Business Research 3 takes candidates from the literature review and methodology to data analysis, the generation of results and the write-up of the final thesis.

This course details the statistical techniques necessary for data collection and analysis of business data. The course considers inference and interpretation, the concept of the pilot study and validation study, literature reappraisal, and theory development prior to the generation of final conclusions. The course offers advice on the writing-up process. Writing up may sound relatively straightforward, but it can be the most difficult part of the research. The thesis must contain a logical and methodical argument whereby each section builds on the previous and a central theme whose relevance is reinforced by each successive section and chapter.

The course provides advice on presentation and techniques that may be useful in the viva voce examination and in the implementation of any amendments required by the examinations board.

1.7.6 Using the Introduction to Business Research Courses

The difficulties associated with applied business research cannot be overemphasised. It is common for candidates to fail to appreciate the effort involved and the degree of detail required. Candidates have to pass examinations in the three courses, and the examiners will not award a pass if the candidate does not demonstrate the required skill for each one. The *Introduction to Business Research* courses provide a basic generic introduction to the field of applied business research. The specific application will vary depending on the organisation chosen as the basis for the research. More advanced and specific research methods and associated approaches are developed in conjunction with the supervisor.

The *Introduction to Business Research* courses act as a bridge between the assumed zero research awareness of the candidate and the knowledge that can be provided by the experienced supervisor.

1.8 Some Important Issues to Remember

1.8.1 Introduction

These issues have emerged during the operation of the EBS DBA programme and are listed here so that new candidates are aware of them and can allow for them as they develop their own research ideas. They are not the only issues the candidate needs to be aware of, but they are particularly important as they have the potential, if not managed properly, to affect the research stage of the programme.

1.8.2 Managing Expectations

Candidates should always remember that the EBS DBA research stage involves high-level doctoral research. The *Introduction to Business Research* courses attempt to prepare the candidate for the research stage, and each candidate is offered the services of a mentor and, subject to completion of a viable research proposal, a supervisor. None of these sources of guidance and support, however, offer a guarantee that an individual candidate will be equal to the demands of doctoral research.

Doctoral research requires a candidate to think for him- or herself at the highest level. In many cases questions are posed to which there is no one single answer that can be looked up in a reference book. In doctoral research answers have to be forged for the first time. This is an entirely different concept and learning experience for most DBA candidates. Some candidates who are good at studying and passing examinations also have an aptitude for research, but some do not have the levels of creativity and innovation that are necessary to design and implement doctoral research. In some cases it is very unlikely the candidate will ever be able to successfully complete the DBA.

While the *Introduction to Business Research* courses are designed to develop basic research skills, they can only go so far in preparing the candidate for the rigours of the mentored and supervised phases. If a candidate successfully studies the *Introduction to Business Research* courses and passes the examinations, this is an indication that he or she has developed the basic research skills required to progress to the mentored phase, but it does not guarantee that the candidate will necessarily be successful in research.

1.8.3   Thesis Size and Work Required

The EBS DBA thesis should normally have a final word count of around 45 000 to 50 000 words and not normally exceed 400 pages in length including references and appendices. This target size is less than the standard university requirement for a PhD thesis, which is 45 000 to 80 000 words.

While the EBS DBA thesis is shorter in terms of word count than a standard Heriot-Watt University PhD, it is examined in the same way and to the same standard. The thesis must make a contribution to the knowledge base, and it has to be prepared and presented to a standard equal to that of a PhD.

It is, therefore, important to accept that there is a considerable amount of work involved in conducting DBA research and writing up the DBA thesis. There are no standard timescales for completion, although current University regulations contain upper time limits. Candidates must be prepared to spend a great deal of time in designing and implementing the research and in drafting the thesis. As an outline guide a candidate with plenty of time to progress the research might expect to complete *IBR1–3*, the research proposal, the literature review submission and the final thesis within three years. A candidate with limited time due to work and family commitments might expect to take four years to complete. The EBS DBA is not a 'quick PhD'.

1.8.4   Plagiarism

Plagiarism is the act of taking the work of a third party and presenting it as one's own. For example a school student who is writing an essay to be handed in for assessment might copy a similar essay from the Internet and simply change the name on the essay before handing it in for assessment. In a less extreme case a student might cut and paste sections from several different existing essays to form a new essay that he or she then submits as his or her own work. Plagiarism can take all kinds of different forms, from the direct copying of entire documents to the paraphrasing of individual paragraphs and sentences. It can include the use of diagrams as well as the use of text.

Plagiarism is a major problem in schools and universities all around the world, and the incidence of plagiarism has increased with the global growth of the Internet.

It is important that candidates appreciate, right from the very start of the research stage, that the research must be their own work. Where the work of others is included or cited, it must be attributed and referenced. This applies to all work submitted during the research stage, including the research proposal, the literature review submission and the final draft thesis.

1.8.5 Change Control

As discussed in Section 1.5.2 the research proposal, literature review submission and final draft thesis are all subject to formal review by the DBA Research Committee. The idea of this reviewing system is to ensure, as far as possible, that the research is progressing satisfactorily at each review stage.

It is important to realise that individual mentors and supervisors have their own views on research design and implementation and that, if not controlled, these ideas and preferences can sometimes influence the subsequent conduct of the research. For example a student may have a preference for designing research around a quantitative (using numbers) approach as this reflects his or her qualifications and experience. The candidate may subsequently discover that interesting observations that were not expected from the outset emerge from interviews. They may therefore decide to adopt a more qualitative approach during the course of the research.

The DBA Research Committee takes a balanced view. If the Committee accepts a research proposal based on quantitative research methods, then it is very likely the research will be viable using that particular methodological approach. For this reason, and to avoid the risk of the focus of the research subsequently being modified by the candidate's immediate experience, the focus of the research cannot be subsequently changed without the approval of the Committee. When the supervisor and candidate agree a change would be desirable, the change must be referred to the Committee, and Committee approval must be forthcoming before the change can be implemented.

It is, therefore, very important to ensure that the research proposal is an accurate representation of the intended research, because once approved it can be difficult to change.

1.8.6 Written Access Guarantees

EBS DBA research is applied research. Candidates are normally required to obtain research data from real organisations. In order to obtain this data, candidates may have to conduct semi-structured interviews, issue postal or email questionnaires or examine organisation files and records, etc. Research data obtained by the researcher directly from individuals or organisations is often referred to as *primary data* in that it is obtained directly and for the first time by the researcher. Data obtained from published results, such as financial performance characteristics taken from published profit and loss accounts that are already in the public domain is often referred to as *secondary data*.

In most cases, to obtain primary data a DBA candidate has to work closely with a given organisation, and this obviously requires the consent and agreement of that organisation. If the viability of the proposed research depends on that primary data, it follows that the viability of the proposed research equally depends on the consent and agreement of the organisation or organisations who are to provide that data. It is vitally important, therefore, to understand that guaranteed access to the necessary data is a key aspect of DBA research design. Candidates must demonstrate they have guaranteed and unrestricted access to all

necessary data from the earliest stages in the research design process. In most cases, when assessing a research proposal, the DBA Research Committee will require *written access guarantees* to be provided as part of the submission.

A written access guarantee is usually a signed letter on company headed paper that clearly states the company or organisation will allow the candidate access to all necessary data, whether this is people to interview or company documents and records. The written access guarantee has to be submitted along with the research proposal. Research proposals that do not contain adequate access guarantees will be rejected. It is worth noting that the DBA Research Committee has previously rejected a number of otherwise promising research proposals, simply because they were not supported by adequate written access guarantees.

1.8.7   Establishing a Viable Literature Base

It is important to remember that the candidate must be able to demonstrate a viable research base in the chosen research area. Research areas that have little or no published research should be considered as high risk and avoided. The mentor will ask the candidate to demonstrate that there is a viable literature base in the chosen research area. If the candidate is unable to demonstrate a viable literature base, the mentor will probably recommend the student choses an alternative research area. The DBA Research Committee is unlikely to accept a research proposal in an area where the candidate has been unable to demonstrate a viable literature base. It is important to remember that the DBA Research Committee is only likely to accept a research proposal for research in an area with a non-viable literature base if the candidate is able to make a sufficiently strong and convincing case in support.

Learning Summary

This module has attempted to introduce the EBS DBA and specifically the EBS DBA research element. The candidate should now have a basic understanding of:

- the arrangement of the EBS DBA *Introduction to Business Research* courses;
- the relationship between the courses;
- the aims and objectives of the research stage of the EBS DBA programme;
- the basic structure of research stage of the EBS DBA programme;
- the concept of a doctoral thesis and what this entails;
- the stages in the development of a doctoral thesis;
- the roles of the people involved in mentoring, supervision and examination.

The following section briefly summarises the primary learning outcomes included in this module.

The EBS DBA Introduction to Business Research Courses Process Model

- This course, *Introduction to Business Research 1*, is one course within a larger suite of three research courses. Collectively the three courses act to prepare the candidate for the research stage of the EBS DBA programme.
- The basic sequence of courses is as follows:
  - *Introduction to Business Research 1* develops the framework and explains how to prepare a viable research proposal.
  - *Introduction to Business Research 2* extends on *Introduction to Business Research 1* and explains how to design and conduct a review of the existing knowledge base and literature so that the proposed research can be firmly established within the context of what is already known.
  - I*ntroduction to Business Research 3* extends on *Introduction to Business Research 1* and *Introduction to Business Research 2* and explains how to develop a viable research method and how to execute the data collection and analysis stages before going on to write up the final thesis.
- Inception is where the candidate considers numerous issues including his or her own academic qualifications, experience, interests and employment. He or she then develops an initial concept, which may be suitable for further development.
- Framing is where the candidate then carries out a preliminary analysis in order to provisionally evaluate the concept.
- The contextual sub-process is where the candidate sets the research in context by the selection of an appropriate research philosophy or paradigm.
- The research proposal is effectively an extension of the framing and contextual sub-processes. It is a statement of the candidate's research intent in a standardised form that can be evaluated by others.
- In the EBS DBA programme the research proposal is a formal document that communicates the proposed research to the EBS DBA Research Committee. It is read and considered in detail by the Committee and is either accepted or rejected depending on its overall viability and potential.

The EBS DBA Research Process

- The aim of the EBS DBA programme is to produce applied business research professionals who can use their doctoral-level skills to real effect at senior executive level in a business environment.
- The aim of the EBS DBA programme differs from the typical aim of a Doctor of Philosophy (PhD) degree, which is to produce professional researchers who use their research skills with perhaps less direct application and more of an emphasis on theoretical and academic application.
- The objectives of the EBS DBA programme revolve around the development of the applied business research skills necessary to achieve this aim.
- The EBS DBA comprises the courses stage and the research stage. Candidates have to successfully complete the courses stage before progressing to the research stage, and both stages have to be successfully completed to meet the requirements of the programme.

- The courses and research stages work together. The courses stage effectively prepares the candidate for the research stage.
- A traditional PhD programme comprises little or no courses element with the candidate focusing more or less entirely on the research element, although in the UK and in some other countries this traditional structure is changing slowly with more programmes adopting a courses element.
- The precise structure of the courses stage varies depending on the existing qualifications of the candidate.
- With the exception of those with existing doctoral or equivalent qualifications, virtually all candidates are required to successfully complete the *Introduction to Business Research* courses in sequence.
- The research stage involves the candidate in designing and implementing doctoral-level research, from preparing a viable research proposal right through to passing the final examination.
- In general terms 'doctoral-level research' means research that contributes to the knowledge base in the chosen research area. In this context 'knowledge base' means the sum total of the published information in the research area.
- The research stage is obviously very different from the courses stage. In the research stage there are no self-contained study packs of subject-specific examinations, as was the case in the courses stage.
- In the research stage the candidate works at his or her own pace, developing research in the chosen specific subject area and working towards the development of the final thesis.
- The EBS DBA research stage comprises two phases. In the mentored phase the candidate works with an approved mentor to develop a viable research proposal that is subsequently accepted by the DBA Research Committee. The mentor adopts an essentially generic approach, advising the candidate on all aspects and stages of the development of the research proposal.
- When the research proposal is accepted by the DBA Research Committee, the candidate progresses to the supervised phase.
- In the supervised phase the candidate works with an approved supervisor who is a specialist in the chosen research area.
- The working relationship between candidate and supervisor in this stage is exactly the same as for standard PhD research.
- In order to complete the research phase and graduate with the degree of DBA, the candidate must design and implement the research programme and then write everything up in the form of a doctoral thesis.
- The candidate is required to defend the thesis before examiners.
- The doctoral thesis itself is a bound volume that is written by the candidate and submitted to the University before being issued to the examiners.
- The starting point in the development of a thesis is usually the production of the research proposal.
- Once approved, the research proposal acts as the basic foundation of the research that follows, and each section of the research proposal is developed in more detail as the final draft thesis is produced.

- The next stage is usually the development of a detailed critical literature review that demonstrates the candidate has developed a detailed knowledge and understanding of the relevant literature and knowledge base.
- Having developed this knowledge and understanding, the candidate develops a research problem or question. This is a simple stated expression of what the research is trying to achieve.
- The question is then used as the basis for developing a research aim and a series of research objectives. The aim expresses what the research is trying to determine, while the objectives express the measurable components of the aim.
- The research method uses data collection as the source of information, allowing the data to be analysed and results generated.
- The results are then processed and collated to produce conclusions.
- The primary stages in the development of a thesis can be summarised as follows.
  The development of a research proposal.
  The development of a literature review.
  The development of a research question, theory or hypothesis.
  The development of a research method.
  Data collection and analysis.
  The generation of results and conclusions.
- The DBA thesis is assessed by a viva voce or oral examination.
- The examiners have to satisfy themselves on a number of key issues regarding the thesis. Some key areas are:
  – that the thesis is the candidate's own work;
  – whether or not the thesis is of an adequate standard generally;
  – whether or not the thesis outcomes form a contribution to knowledge of the subject;
  – whether or not the thesis affords evidence of originality;
  – whether or not the originality element is supported by the discovery of new facts;
  – whether or not the originality element is supported by the exercise of independent critical power;
  – the extent to which the candidate understands the complexities involved.
- Candidates must demonstrate that there is a viable literature base in the chosen research area.
- The mentor will ask the candidate to demonstrate that there is a viable literature base in the chosen research area. If the candidate is unable to demonstrate a viable literature base, the mentor will probably recommend the student chooses an alternative research area.
- The DBA Research Committee is unlikely to accept a research proposal in an area where the candidate has been unable to demonstrate a viable literature base.
- The DBA Research Committee is likely to accept a research proposal for research in an area with a non-viable literature base only if the candidate is able to make a sufficiently strong and convincing case in support.

The EBS DBA Thesis

- The thesis should normally contain around 45 000 to 50 000 words including references and appendices.
- This target size is in contrast to the standard university requirement for a PhD thesis, which is generally to be no less than 45 000 words and no more than 80 000 words.
- Candidates should be aware of current university regulations on plagiarism and must ensure that they comply in all respects with current university guidelines on the issue of plagiarism.
- The current guidelines can be accessed at the University URL www.hw.ac.uk/registry/resources/PlagiarismGuide.pdf
- The DBA Research Committee normally reviews the draft introduction, literature review and methodology sections of the thesis before allowing the candidate to proceed to the main study (data collection, analysis, results and conclusions).
- The Committee normally carries out a plagiarism check at this point and considers the results as part of the formal Committee review of the draft work. The final draft thesis is also usually checked.
- The candidate is required to sign a declaration to the effect that he or she has read the university guidelines on plagiarism and the thesis complies in all respects with these guidelines.
- The research must form a contribution to the knowledge of the subject and afford evidence of originality.
- Originality shall be shown either by the discovery of new facts or the exercise of independent critical power.
- In terms of forming a contribution to the knowledge of the subject, the contribution could take a number of different forms.
- The knowledge of the subject is defined by the full range of published literature on that subject.
- The contribution made to the knowledge of the subject thesis has to be original.
- The contribution can be evidenced by the discovery of new facts, such as proving a new link between two existing variables.
- The contribution can also be evidenced by the exercise of independent critical power, such as analysis of a single company on a case-study basis to address a strategic business issue.
- The EBS DBA is structured to contain a number of distinct progression milestones. These are summarised below:
  - Milestone 1: entry to the programme.
  - Milestone 2: completion of the courses stage.
  - Milestone 3: working with the mentor to complete the research proposal.
  - Milestone 4: working with the supervisor to complete the literature review submission.
  - Milestone 5: working with the supervisor to complete the thesis and successful viva voce.
- There are effectively three distinct elements in the development of the research. These stages are listed below:
  - Element 1: the research proposal.

- Element 2: the literature review, synthesis, research hypothesis and research method design.
    - Element 3: implementing the research method, data collection, analysis, results and write-up.
- These elements are reflected in the content of the DBA core courses *Introduction to Business Research 1*, *2* and *3* respectively.
- The thesis is likely to contain the following main sections:
    - **Introduction**. The introduction section should typically be around 1000 to 2000 words long and should contain a brief summary of the main aims and objectives of the research together with a summary of any assumptions and limitations that apply.
    - **Literature review**. A literature review could be a single chapter or could run to several chapters, and a ball-park figure for an average word count would be perhaps 10 000 words. It should be stressed that many literature reviews contain significantly fewer words.
    - **Literature synthesis and generation of hypotheses**. This chapter synthesises the literature and uses the synthesis to generate some kind of research question, aims, objectives and, possibly, a series of testable hypotheses
    - **Pilot study and theory/hypothesis and refinement**. This section is not always necessary, but it is generally advisable to include a quick pilot study where possible.
    - **Research method**. The research method describes the process for collecting and analysing research data. The research method chapter must contain sufficient detail so that any other researcher can come along later and, using the same design and method, obtain the same results.
    - **Data collection and analysis**. The analysis involves the collection and processing of data.
    - **Results**. The results are the outcome of the analysis. Results are most frequently presented as a combination of quantitative and qualitative approaches and are often considered directly in the context of the main research theory or hypothesis.
    - **Literature reappraisal and theory development**. The results of the research can be used to reappraise the literature and develop the main research theory or hypothesis.
    - **Conclusions and suggestions for further research**. The final stage of the thesis is the preparation of final conclusions and suggestions for further research.

The People Involved in Supervision and Assessment

- The EBS DBA Research Committee oversees the management and development of the research stage of the DBA programme.
- The Committee has a wide range of generic and specific responsibilities, ranging from the review of draft research proposals and literature reviews to developing new policy and procedures for the programme as a whole.
- The mentor establishes contact with the candidate and then provides him or her with general guidance for the duration of the development of the research proposal.
- The supervisor takes over from the mentor as soon as the DBA Research Committee considers the research proposal to be viable. Unlike the mentor, the supervisor is a subject expert in the chosen research field, and he or she works with the student right through to completion of the programme.

- Supervisors are either EBS faculty or wider University faculty or wholly external (non-Heriot-Watt) specialists who are selected on the basis of their expertise and (if possible) geographical location.
- The Senior Supervisor oversees the individual supervisors, acts as a moderator and usually has no direct contact with candidates.
- The internal examiner is responsible for examining the doctoral thesis in order to ensure that it complies with university regulations relevant for the award of the degree.
- The external examiner is a member of the faculty of another (not Heriot-Watt) university.

The Introduction to Business Research Courses

- On completion of the EBS DBA course *Introduction to Business Research 1*, candidates should be able to produce a fully detailed research proposal of a sufficient standard to be accepted by the DBA Research Committee.
- On completion of the EBS DBA course *Introduction to Business Research 2*, candidates should be able to produce a fully detailed and comprehensive literature review that is of a sufficient standard to be accepted by the DBA Research Committee.
- On completion of the EBS DBA course *Introduction to Business Research 3*, candidates should be able to complete the research and develop the thesis to a standard acceptable for presentation and viva voce.
- Candidates should read the three *Introduction to Business Research* courses very carefully. The difficulties associated with applied business research cannot be overemphasised. It is very common for candidates to fail to appreciate the effort involved and the degree of detail required.
- The *Introduction to Business Research* courses provide a basic generic introduction to the field of applied business research. The specific application will vary depending on the organisation chosen as the basis for the research. The more advanced and specific research methods and associated approaches are developed in conjunction with the supervisor.
- The *Introduction to Business Research* courses act as a bridge between the assumed zero research awareness of the candidate and the knowledge that can be provided by the experienced supervisor.

Some Important Issues to Remember

- In some cases, where a candidate has little or no aptitude for research, it may be that no amount of assistance and advice from mentors or supervisors or other research professionals can develop the necessary aptitude in the candidate. In such cases it is very unlikely the candidate will ever be able to successfully complete the DBA.
- The EBS DBA thesis should normally have a final word count in the region of 45 000 to 50 000 words including references appendices. While the EBS DBA thesis is typically somewhat smaller in terms of word count than a standard Heriot-Watt University PhD, it is examined in the same way and to the same standard.
- There is a considerable amount of work involved in conducting DBA research and writing up the DBA thesis.
- As an outline guide an outstanding candidate with plenty of time to progress his or her research might expect to complete the whole process of completing the *Intro-*

duction to Business Research courses, the research proposal, the literature review submission and the final thesis within two to three years.

- A more 'average' candidate who may have limited time due to work and family commitments might expect to take three to four years to complete.
- Candidates must be aware of, and must comply with, all current University regulations regarding plagiarism. A copy of the latest guidelines can be found at the University URL www.hw.ac.uk/registry/resources/PlagiarismGuide.pdf
- The research proposal should be written with great care and after extensive consideration. Once the Committee has reviewed and approved the research proposal, the approach and focus detailed in the research proposal cannot be changed significantly without the approval of the Committee.

Review Questions

True/False Questions

These questions are designed to allow an evaluation of the general level of understanding of the subject areas. The questions should be read and answered as quickly as possible. Having read the preceding module, it should be possible to answer the majority of the questions correctly provided that reasonable level of understanding in each subject area has been developed.

The EBS DBA Introduction to Business Research Courses Process Model

1.1 *Introduction to Business Research 1* is one course within a larger suite of four research courses. T or F?

1.2 *Introduction to Business Research 1* develops the framework and explains how to prepare a viable research proposal. T or F?

1.3 The research proposal is a formal document that communicates the proposed research to the EBS DBA Research Committee. T or F?

1.4 The research proposal is always accepted by the DBA Research Committee. T or F?

The EBS DBA Research Process

1.5 The primary aim of the DBA is to produce professional researchers who will go on to develop full-time careers in academia. T or F?

1.6 The research stage always includes the development of a research proposal. T or F?

1.7 The courses and research stages of the EBS DBA programme operate in isolation and do not relate to each other. T or F?

1.8   The research stage involves the candidate in designing and implementing doctoral-level research, from preparing a viable research proposal through to passing the final examination. T or F?

1.9   It is not generally necessary for 'doctoral-level research' to contribute to the knowledge base. T or F?

1.10   The EBS DBA research stage comprises two phases: the mentored phase and the examination phase. T or F?

1.11   In the supervised phase the candidate works with an approved supervisor who is a specialist in the chosen research area. T or F?

1.12   The research method uses data collection as the source of information, allowing the data to be analysed and results to be generated. T or F?

1.13   The DBA thesis is assessed via continual assessment only. T or F?

The EBS DBA Thesis

1.14   The thesis should generally contain 80 000 to 9 0000 words including references but excluding appendices. T or F?

1.15   Candidates should be aware of and must ensure that they comply in all respects with current University regulations on plagiarism. T or F?

1.16   The research must form a contribution to the knowledge of the subject and afford evidence of originality. T or F?

1.17   The contribution can be evidenced by the discovery of new facts or by the exercise of independent critical power. T or F?

1.18   The thesis must include a pilot study. T or F?

The People Involved in Supervision and Assessment

1.19   The EBS DBA Research Committee comprises three members. T or F?

1.20   The only role of the Committee is to consider DBA programme applications. T or F?

1.21   The mentor is invariably a subject specialist in a relevant area. T or F?

1.22   The supervisor works with the student from successful completion of the research proposal through to completion of the programme. T or F?

1.23   The internal and external examiners have identical roles. T or F?

1.24   The internal examiner is invariably a subject specialist in a relevant area. T or F?

The Introduction to Business Research Courses

1.25   On completion of the EBS DBA course *Introduction to Business Research 1*, candidates should be able to produce a fully detailed research proposal. T or F?

1.26   On completion of the EBS DBA course *Introduction to Business Research 2*, candidates should be able to produce a final thesis. T or F?

1.27   The *Introduction to Business Research* courses provide a basic generic introduction to the field of applied business research. T or F?

1.28   The *Introduction to Business Research* courses assume candidates have a high level of research ability when they enter the programme. T or F?

Some Important Issues to Remember

1.29   All entrants to the EBS DBA research stage have the necessary aptitude for research. T or F?

1.30   All candidates have the ability to successfully conduct doctoral-level research and earn a DBA. T or F?

1.31   The EBS DBA is a quick and easy PhD. T or F?

1.32   Once approved by the DBA Research Committee, the research proposal can be changed. T or F?

Multiple-Choice Questions

These questions are designed to allow an evaluation of the general level of understanding of the subject areas. The questions should be read and answered as quickly as possible. Having read the preceding module it should be possible to answer the majority of the questions correctly provided that a reasonable level of understanding in each subject area has been developed.

The EBS DBA Introduction to Business Research Courses Process Model

1.33 This course, *Introduction to Business Research 1*, is one course within a larger suite of:
   A. two courses.
   B. three courses.
   C. four courses.
   D. five courses.

1.34 *Introduction to Business Research 1* is concerned primarily with explaining how to develop:
   A. a research proposal.
   B. a literature review.
   C. a pilot study.
   D. the complete thesis.

The EBS DBA Research Process

1.35 The main differences between the EBS DBA and a Heriot-Watt PhD are that:
   I.   the DBA has a taught element.
   II. the research proposal is considered by a formal research committee.
   III. the DBA takes less time to complete.
   IV. the DBA is easier.
   Which of the above are true?
   A. I only.
   B. I and II only.
   C. I, II and III.
   D. I, III and IV.

1.36 Which of the following extracts is an accurate representation of the University requirement regarding contribution to the knowledge base?
   A. The thesis shall form a contribution to the knowledge of the subject and afford evidence of originality, shown either by the discovery of new facts or by the exercise of independent critical power.
   B. The thesis shall form a contribution to the knowledge of the subject, shown either by the discovery of new facts or by the exercise of independent critical power.
   C. The thesis shall form a contribution to the knowledge of the subject and afford evidence of originality, as demonstrated by the discovery and publication of new facts.
   D. The thesis shall feature the publication of new facts in the form of an original contribution to the knowledge base, shown either by the discovery of new facts or by the exercise of independent critical power.

The EBS DBA Thesis

1.37 In a doctoral thesis the literature review is generally completed:
   A. before the research proposal is completed.
   B. after the research proposal is completed.
   C. at the same time as the research proposal is completed.
   D. at any time in relation to the research proposal.

1.38   The thesis must provide clear evidence that it:
   I.   is the candidate's own work.
   II.   is thoroughly understood by the candidate.
   III. affords evidence of originality.
   IV.   contains a valid hypothesis.
   Which of the above are true?
   A.   I only.
   B.   I and II only.
   C.   I, II and III.
   D.   I, II, III and IV.

1.39   A literature synthesis is primarily intended to:
   A.   combine a series of literature reviews from separate areas of the research title into one common review summary that highlights the main emerging points.
   B.   develop the review on one area of the research title in greater detail.
   C.   use the main literature review as a support for the development of the research proposal.
   D.   act as a validation study for the main research results.

1.40   An abstract is a:
   A.   point that is specifically referred to in the literature review.
   B.   primary research finding.
   C.   short summary of the research aims, objectives and results.
   D.   summary at the end of a section or chapter within the thesis.

1.41   Replicability is the concept of:
   A.   being able to reproduce the research in order to either corroborate or criticise the findings of the current research.
   B.   being able to use the research method to produce a similar research proposal.
   C.   using other research findings to substantiate the results of the current research.
   D.   using external sources to prove that the research findings are definitely correct.

The People Involved in Supervision and Assessment

1.42   The research supervisor could be:
   I.   a member of the EBS faculty.
   II.   a member of another Heriot-Watt faculty.
   III. an academic from another university.
   IV.   an unqualified external consultant.
   Which of the above are true?
   A.   I only.
   B.   I, II and III.
   C.   II only.
   D.   II and IV.

1.43 Generally speaking, EBS supervisors:
   I. are qualified to PhD or DBA level.
   II. are research active.
   III. have supervised at least one PhD or DBA to successful completion.
   IV. are experts in the exact research area undertaken by the candidate.
   Which of the above are true?
   A. I only.
   B. I and II.
   C. I, II and IV.
   D. I, II, III and IV.

1.44 The EBS DBA thesis is examined by:
   A. a series of written examinations.
   B. continuous assessment of assignments.
   C. requiring publication in research journals.
   D. an oral presentation and defence (viva voce).

The Introduction to Business Research Courses

1.45 The EBS DBA course *Introduction to Business Research 1* develops primarily:
   I. the research proposal.
   II. the literature review.
   III. the development of the research method.
   IV. the data collection process.
   V. the write-up.
   Which of the above are true?
   A. I only.
   B. I and II.
   C. I, II and III.
   D. IV only.

1.46 The EBS DBA course *Introduction to Business Research 2* develops primarily:
   I. the research proposal.
   II. the literature review.
   III. the development of the research method.
   IV. the data collection process.
   V. the write-up.
   Which of the above are true?
   A. I only.
   B. II only.
   C. II and III.
   D. IV only.

Some Important Issues to Remember

1.47 The EBS DBA thesis, compared with a PhD thesis, is generally:
    I. shorter.
    II. less complex.
    III. completed more quickly.
    IV. subject to rigorous examination.
    Which of the above are true?
    A. I only.
    B. I and II.
    C. I and IV.
    D. II, III and IV.