

# **Guidance Notes on the Development of a Project Proposal for Company Based Engineering Doctorate Applicants**

The Development of a viable project proposal is an essential part of the application procedure for the Engineering Doctorate (EngD) programme. However, it is not a test and you should not attempt to fully develop your proposal without assistance. Members of the EngD Executive and staff at the Hong Kong Polytechnic University and the University of Warwick will be pleased to help you develop your research ideas into a suitable EngD project proposal.

## **1. Importance of the Project Proposal**

There are two main reasons why this proposal is so important. One relates to the requirements of the degree and the other to the way you work towards obtaining the degree.

### **1.1 Requirements of the degree**

Innovation is an extremely important aspect of the doctorate and when completed, your research work must “demonstrate innovation in the application of knowledge”. It is a requirement of the degree that some aspect of the work is original, innovative and is also capable of making a significant contribution to the performance of your company. Consequently, simply implementing an accepted practice, technique or standard (e.g., TQM or ISO9000) even if it is new to your company, will not be sufficient to obtain an EngD.

When developing a proposal, it is often difficult to specifically identify which aspect of the research will be innovative. However, what is important for the point of view of your EngD proposal, is that there is evidence that you have researched the area enough to convince yourself, and the executive, that there is *scope and potential* within the proposed work for innovation to be demonstrated during the registration period. The innovation questionnaire will help you and university staff to assess this scope and potential.

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## **1.2 Working Towards the EngD**

The EngD is a full-time programme. Consequently, your EngD research projects will need to be very closely related to your day-to-day work. It is **NOT** possible to do the EngD in your own time outside normal working hours. Other important implications of this relationship between work and the EngD research projects are that you must have the support of your company, access to any information / equipment you need to perform the work and the opportunity to implement your ideas in order to demonstrate your innovation. You need to identify a project that the company is committed to and that you will have a reasonable measure of control and influence over if you are to successfully complete the EngD.

## **2. Developing and EngD Proposal from an Initial Idea**

The initial idea for a research project can come from many sources – a personal interest and/or experience in the subject area or a need for a business or technical solution to a particular problem. However, simply solving a problem for your company or doing a good company project will not necessarily get you an EngD. You need to solve the problem using an innovative approach and/or techniques. As was mentioned above, discuss the development of your proposal with the relevant staff at either the Hong Kong Polytechnic University or the University of Warwick who will help you to develop your ideas.

When developing your proposal, you need to consider the following questions:

- Are you sure that you have identified a genuine problem and not a manifestation of a larger problem – you need to identify the real issues.
- Are you sure that your problem has not been researched and solved by other companies or researchers anywhere else in the world – if it has the potential for innovation will be reduced if not eliminated.
- Is it important to your company that the problem is solved – if it is not, you are unlikely to get the support that you need and it is also unlikely that your work will be capable of making a “significant contribution to the performance of your company”.

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- Would solving the problem be seen as part of your job function – if not, again you are unlikely to have the time to devote to the work or get the support that you need to implement your ideas.
- Is the company willing to give you have access to the information and facilities required to do the work – again you need to ensure that your company is willing to allow you access to whatever financial or technical information that you require in addition to time on any specific equipment or facilities that you need.
- Do you have the time to devote to this particular aspect of your job – if the aspect of your job on which you intend to do your EngD research only accounts for a small percentage of your normal workload, you are not going to have enough time to devote to your EngD. The subject of your EngD needs to be related to a significant proportion of your normal workload.
- When developed, will you have the opportunity to implement your solution – if not, you will find it difficult to demonstrate the validity of your innovation and the benefit to the company.
- Is the time scale of the work consistent with a four year EngD – if projects are too short (e.g., 2 months), it is unlikely that there will be the opportunity to include the depth and academic rigour required for the EngD. However, if the project is too long (e.g., 10 years) there may not be the opportunity to develop and implement your ideas to the point that you can demonstrate your innovation.

If the answer to any of these questions is no, there will be problems if you try to base your EngD proposal on this project(s). You will therefore need to revise the proposal or consider whether starting an EngD really is a suitable option this time.

### 3. Format of the Proposal

A viable EngD proposal need only be three to four pages long and a typical format would be:

<b>Introduction</b>	Discuss the background to the area and the need for the research
<b>Literature</b>	Briefly discuss the published literature and other information that you have used to identify the gap in the knowledge, which you intend to fill, and hence the potential for innovation.
<b>Objectives</b>	What are the main achievements you expect to achieve.
<b>Research Methodology</b>	Outline how you are going to conduct the research and obtain the data that you need, e.g., conduct interviews, surveys or experimental work etc., and how this will be achieved within your current working environment in terms of time and access to information.
<b>Expected Deliverables</b>	Outline the deliverables that will be produced by your research (e.g., a framework, a model or a piece of equipment) and what the implications of this will be to your company and your industry in general. Again, briefly discuss why you feel that these deliverables would be regarded as innovative.
<b>Timing Chart</b>	It is always useful to product a timing plan to show when the various aspects of the work will be performed, especially if some of the timing is outside your control, e.g., fixed by the company.

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#### **4. Submission of the Project**

Once completed, the proposal is submitted with the University of Warwick application forms. However, as was mentioned at the start of these guidelines, this is not a test. By the time that your proposal is submitted, you should have been discussing the contents with us for some time and already know that we are happy with the contents.

#### **5. Contact details**

The contact details of the staff with which you should initially discuss your proposal are given below.

Prof. H.C. Man	HKPU	Tel: 852 2766 6629 Email: <a href="mailto:hc.man@polyu.edu.hk">hc.man@polyu.edu.hk</a>
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We hope that these guidelines are useful and look forward to discussing your proposal with you.