Internationalisation in Continuing Engineering Education: 
a Case study

by:
Guus de Mari
senior project manager
Delft TopTech
Delft University of Technology
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Abstract
Delft TopTech is the school of executive education of Delft University of Technology in the Netherlands and offers executive master programmes.

This contribution gives answers on how universities, i.e. university institutions for continuing education, can improve their performance by international cooperation.

Using literature and best practices a model is developed, which has an axe for commercial responsibility and an axe for content responsibility. Nine options vary from completely centralised in Delft, via Sales offices and Partnerships to Licence selling. In the analyses, with the use of this model, it became clear that Delft TopTech should start on internationalisation in Western Europe. Staying a national institute will isolate the school in the university and it will loose its connection with customers and participants.

The case study gives that the most appropriate method of internationalisation is partnerships with other universities.

Keywords
Internationalisation; Education; Executive Master Programmes; Partnership; Alliances
Introduction

Delft TopTech is the school of executive education of Delft University of Technology (the Netherlands) and it is dedicated to helping mid-career professionals and managers to develop and organise their education. Since 1987 we have been offering executive Master’s programmes, management courses and in-company training courses. They are designed to strengthen the innovative and executive talents of individuals and organisations, both in the private and public sectors.

This contribution forms a part of the author’s MBA-thesis submitted in July 2007. The case study gives answers on how universities, i.e. university institutions for continuing education, can improve their performance by international cooperation.

In the 5th European Forum on Continuing Engineering Education, this case study fits in the theme Continuing Engineering Education; productivity, collaboration and networking and in the topic Joint CEE Programs and Marketing of Continuing engineering education.

Context

Delft University of Technology is Holland’s most international university. All MSc-programmes are provided in English for a mixed group students, about 30% of the master students is non-Dutch. In some disciplines, this percentage is around 90% for PhD students. The university works in an international network of universities and has partnerships all over the world.

Delft TopTech is a subsidiary of Delft University of Technology and operates independently from any faculty. It does not have the objective to gain profit. The added value for the mother organisation, Delft University of Technology, is promotional, offering life long learning and to create some additional income for professors and faculties. Delft TopTech creates a community where academia and society meet.

Delft TopTech is active in the fields of energy, information technology, petroleum engineering, space technology, transport, telecommunication, security and safety. The portfolio of Delft TopTech consists of programmes for the Dutch market and most of the educational programmes are offered in Dutch. Only the Master of IT Management has an international orientation.
Problem formulation

Delft TopTech's portfolio consists of educational programmes mainly for the Dutch market. The Master of IT Management has an international orientation, but even in this programme the number of non-Dutch participants is small.

Delft University of Technology is a highly internationally oriented university. The university works in international networks of universities (such as the IDEA-league) and has partnerships all over the world.

This mismatch between the national Delft TopTech and the international university is studied.

Many customers of Delft TopTech are international oriented organisations. About 60% of the participants in the Master of IT Management work in an international setting. The mismatch between the mainly Dutch programme and the international market is studied.

The research reported here is aimed at giving an answer on the main question:

*Will Delft TopTech increase its added value if it provides international programmes? And, if so, which method would be the most effective and profitable?*

Approach and methodology

The study is done in three parts: Literature research, Field research and Recommendations.

Literature research

Considering the different strategy schools, and Delft TopTech’s organisation structure and culture the most effective way to define strategies is chosen. The traditional SWOT-analysis is chosen, because in the organisation it is known, it fits and it can be used for short term planning.

Methods and motives for internationalisation are studied. The most relevant reasons for internationalisation are that most of the customers are:

- internationally oriented
- Delft TopTech’s participants aspire an international career.

There are many methods for internationalisation. Exportation of goods is the most well-known, but also working with agents or affiliates is common. The method of setting up partnerships between complementary companies is rising; both can benefit from the cooperation. Also in the academic world, partnerships and cooperation are often used in research projects and in education. It is not easy to find and select a good partner. Formal criteria play an important role, but also aspects like management fit are essential for success. The Koninklijk Instituut voor de Tropen in Amsterdam developed a helpful model (Interests; Circumstances; Cultural and industrial inheritance).
The Bachelor-Master structure in Europe helps to position Delft TopTech’s master programmes as “master-after-master”. The rise in the use of blended learning makes internationalisation easier. Mixing e-learning and contact hours, travel time and costs are reduced and it is easier to form an international faculty. The curriculum and cases itself have to be international; conducting in English is not enough.

**Model**

We developed a two-dimensional descriptive model. The model consists of two axes. The horizontal axis gives the commercial responsibility and the vertical axis gives the responsibility for content. When valuing the nine possible options for decision-making, only six relevant options (scenarios) have been used. These scenarios describe the extreme options and two realistic in-between options. (see figure, the scenarios are marked with red ovals).

The six scenarios are (from bottom left, anticlockwise):

- Centralised: both commercial and content are under responsibility of Delft TopTech
- Sales office: Sales offices or agents are selling programmes of Delft TopTech
- In foreign portfolio: Independent partners are selling Delft TopTech programmes under own responsibility
- Partnership: Cooperation on content and commerce
- Licence: Independent partners have the licence to provide Delft TopTech programmes
- Selling: Delft TopTech sells programmes of third parties

![Figure 1 Two axes model](image)
**Field research**

The prerequisites of Delft University of Technology and the Dutch and European government have restricted the internal and external field research. The policy of Delft University of Technology claims that by internationalisation, the quality of research and education has to increase. As Delft TopTech is a network organisation, the number of stakeholders is large and their influence is big. Internationalisation is only feasible with a minimum of investments and with benefits on short term.

From the requirements and the internal analysis, a set of conditions is defined:

- Comply with the rules for accreditation by Delft University of Technology
- Create added value for customers and participants
- Be acceptable for all stakeholders of Delft TopTech
- The result has to create benefit, also on the short term

In the external analysis several educational establishments in the Netherlands and abroad have been studied. Most of the institutions are organised centrally when it comes to internationalisation. Competition is considered and the customer demand is taken into account. Several world regions are ranked on the feasibility for continuous education.

**Recommendations**

The recommendation is to start internationalisation in a structured but phased way. The best-fit and most effective method is internationalisation by cooperation with equal foreign universities (Partnership). Considering the present network, competences and opportunities, the focus should be on Western Europe.

It is recommended starting with two programmes; other programmes can follow later. Adapt the organisation of the partnership according to the needs of each programme.

Concentrate on this way of internationalisation; always search a local partner to cooperate with. Do not fall into “academic colonisation”.

It is to be expected that new opportunities and new programmes will appear from cooperation.
Case study: Results, implications and conclusions

For one of Delft TopTech’s master programmes, the Master of IT Management, a vision on a European programme is developed and agreed by management, customers and university.

The programme
The programme aims to bring IT professionals and managers at strategic level. They learn how to improve the IT function in their own organisation, to develop a vision for the future of IT and they get the skills to bring IT and business together. It is an part time executive programme; it is modular and participants can choose their own tempo.

The present Master of IT Management consists of five modules (IT Governance, Business & IT Architecture, IT Financials & Decision Making, Strategic Sourcing, IT Service Delivery Management) and some personal coaching. After completing these five modules, the participant can start with the Master Module, thesis writing and examination.

When designing the programme, the market partners asked for an international programme, but after 5 years it is a mainly Dutch programme. It is offered in Delft only and the participants are living in the Netherlands (some exceptions). Only a few participants don’t speak or just a little Dutch, the programme is conducted in English and all assignments are written in English.

Also lecturers come mainly from the Netherlands.

Present surrounding
More than half of the participants work in an international organization (an organization with premises abroad). Internationalization is no longer an option, companies are working in an international network and their employees make international careers. Management development is by definition international.

Ambition
We want to grow to one European Master programme which is delivered by selected universities and business schools. We aim at one European Master degree which is recognized in several European countries.

A portfolio of modules will be offered, some modules might be offered in parallel. Participants can do parts of the programme in their own country or at a partner in another country. They can choose for location or for content.
**Additional value for participants and organizations**
The fit between an international work context and the study will become better. Their network, during and after the study, will be enlarged with peers from other countries and cultures; this will give the professional network more value. Participants can personalise the programme by choosing modules. They can study abroad and meet international faculty.

**Network**
Knowledge and experience will be exchanged between the partners. It is expected that also lecturers will act in modules abroad.

**Organisation of cooperation**
At the start Delft University of Technology will remain overall responsible. The present requirements for the programme will remain. The programme duration, module structure, assignment criteria and pricing will be equal in all countries.

Partners will design and deliver their own module(s) with own faculty, but in consultation with Delft University of Technology. They are responsible for local marketing.

**Present partners**
Delft TopTech delivers 5 modules and the master module. At the moment Delft cooperates with Institut des Science et Technique des Yvelines of the University of Versailles Saint-Quentin-en-Yvelines (France) and the University of Skövde (Sweden).

The network will be enlarged with other European universities or business schools. Also the present partners will provide more modules. In the future the master module and the examination will be held in several countries.

The first non-Dutch module is expected in spring 2008.
Relevant references and literature

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