

Managing an International Continuing Engineering Education Association

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Abstract

The role and characteristics of the association are presented in general terms. The most important activities developed are presented with a short description of the objectives. The management structure and framework are described in terms of the functions and objectives respectively. The main issues facing the managing are presented with the discussion of solutions and schemes. The strategies of the actual management are presented with the indication of the steps to be undertaken.

IACEE Description

The authors, current and past President of the International Association for Continuing Engineering Education (IACEE), present an overview of the managerial issues concerning IACEE (www.iacee.org). IACEE is an independent, non-governmental, non-profit organization, the objective of which is to support and enhance lifelong technical education and training and advanced engineering education world-wide.

The founding process of IACEE was initiated already in 1986, as a means to secure the continuation of the triennial World Conferences on Continuing Engineering Education. The idea received strong support from UNESCO and its International Working Groups on Continuing Education of Engineers and Technicians, and on Engineering Education and Industry Cooperation. From the very start, several international organizations within the field of engineering education actively promoted the new association. The Charter was signed during the opening session of the 4th World Conference on Continuing Engineering Education on May 17, 1989 in Beijing, China.

The Founder Organizations are regional organizations, which support and enhance the provision of continuing engineering education: IACEE is recognized by UNESCO and by UNIDO as an international non-governmental organization. IACEE receives its principal support from various national, regional and international organizations engaged in continuing engineering education. The purpose of IACEE is to support and enhance lifelong technical education and training, and

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advanced engineering education worldwide. The activities will include measures specifically directed to meet the special needs of the developing countries in CEE.

The association's objectives are pursued by:

- a) promoting international technology transfer through a better understanding of the continuing education process;
- b) improving the quality of education and training of engineers and of technicians, and of technical information through international cooperation developing and strengthening cooperation between education and industry;
- c) promoting the establishment of centers for continuing engineering education;
- d) supporting the equality of women in engineering;
- e) promoting and conducting research and development;
- f) initiating international and regional meetings and conferences and providing technical assistance;

The organization of IACEE is governed by its Council and by its Executive Committee. The 21-member Council consists of the representatives of the Founder Organizations, the other classes of institutional membership, and the individual members as well as the host country of the Association. The host country of the association is Finland and the By-Laws are in accordance with Finnish law. The current headquarters are located in at Helsinki University of Technology, Lahti Center, Finland, the Secretary General is Prof. Ilkka Kauranen, the President is Prof. Alfredo Soeiro, University of Porto, Portugal, and the Vice-President is Prof. Feng Chang-Gen, Beijing Institute of Technology, China.

The Last 12 Years of IACEE

The major public activity of IACEE is the realization of a conference held every three years. After the formal creation of the association in Beijing, China in 1989 during the 4th World conference, the following conferences were held in Helsinki, Finland in 1992, in Sao Paulo and Rio de Janeiro, Brasil in 1995, in Torino, Italy in 1998 and in Toronto, Canada in 2001. The 9th World Conference will take place on May 16-19 in Tokyo, Japan. The conference is hosted by the Japanese Society for Engineering Education and Nihon University.

Another important activity of IACEE is the support, mainly nominal, for projects related with CEE. Any member may propose a new project. The main contractor of a project should submit a project description containing the following information: purpose, background, works plan, timetable, schedule, organization, personnel, budget and expected benefits. Preference is given to projects, which build on successful results of previous work. The first-hand responsibility for each project is handled by individual member organizations or internationally recognized centers of competence. The main partner draws up the project plan, recruits the participants and supports the financial responsibility for carrying out the project.

Another important activity of IACEE is the working groups acting within the key areas offering opportunities for member involvement in their preferred areas. One current working group addresses the Professional Development that aims to serve as a forum for discussion and cooperation in the field of continuing professional development systems. Another working group

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is analyzing the University-Industry Cooperation to examine good practice in the broader relationship between universities and industry but with application to CEE. A third working group is looking into the CEE Management subject and seeking to collect information on successful models. A fourth working group is the Learning Technologies and Information Society that comprises a discussion forum, joint development and sharing experiences.

The managerial activities are mainly provided by the Executive Committee and by the Council members. The most important events are the meetings held by these two bodies that have been happening regularly. The Council meets once a year generally during the spring and in the year of the world conference during the event. The Council is the ruling body of the association between the General Assemblies. These take place during the World Conference and debate major issues like elections and changes in the Bylaws. The Executive Committee meets regularly three times a year and has the main function of implementing the decisions taken by the Council and by the General Assembly.

Main Issues Concerning IACEE Management

IACEE is an organization with members from all around the world. This involvement is motivated by the distribution of the founder organizations but also by the activities developed around the globe. This characteristic motivated the need for activities that would be relevant for CEE in different parts of the world. The main consequence was the creation of initiatives that were based on international cooperation. This cooperation took the form of exchange of ideas, of concepts, of case studies, of information and of solutions. The visible and concrete results of this collaboration were the publications and the working groups. The publications produced during this period as a result of the international cooperation range from guidelines for effective dissemination of project results to effective use of information and communication technologies in CEE. The working groups have been addressing matters like the management of CEE centers and cooperation between universities and industry in the area of CEE. Another form of collaboration besides these relevant activities is the networking done during the world conferences held every three years, where the definition of joint projects and initiatives take place between members.

Another characteristic facing the IACEE activities is the diversity of the CEE programs around the world. This diversity is originated by different models of CEE management, by the accreditation systems of CEE, by the types of providers, by the recognition of activities undertaken, by the obligatory nature of regular activities and by the technological level of provided modes of CEE. These of course constitute a challenge when trying to develop activities that can involve most of the members since there is a multi-faceted variety in their working environment. IACEE has taken this fact as an opportunity instead of an obstacle, trying to take advantage of the richness provided by the mixture of the CEE settings. This has been done by the opportunity given to members to propose, participate and engage in several joint projects. Another approach is the promotion and sponsoring of conferences and seminars with other associations in different areas of the world that are interested in CEE.

The different cultural environments have also created difficulties for the development of the association since it has created misunderstandings and communication obstacles between

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management and members, between members and between management. The nature of the association makes the achievements dependent on voluntary participation and, therefore, benefits for members arise from free work from others. A major problem arises from the different cultural interpretations of the compromise to perform an agreed task. While an oral or written commitment in certain cultures means a high probability of being done it happens that in others is just an expression that the action is one that is desirable. These types of differences create an insurmountable amount of wasted time and efforts, as well as uncompleted initiatives. The comprehension of the possible consequences of the cultural diversity is probably the most crucial issue in a proper running of this type of association.

Another important aspect of the management of IACEE is the financing of activities. Most of the work performed is voluntary and the only remunerated parties are the secretary general and its staff. The Council and the Executive Committee members pay their travel expenses and contribute to the association with the contribution for free of their time. There are as revenues the fees paid by the members, the profit from the publications, the share of the incomes from the conferences and overheads from projects. The institution, Helsinki University of Technology that hosts the headquarters also contributes with the infrastructure and part of the salaries. The total amount is not enough to consider expensive activities and great care is taken in choosing the correct administration of the members' contributions, trying to choose the activities that provide greater return from these investments.

There is an increasing factor that affects the functioning of the association and that is the level of technological development achieved by the members around the world. For instance the initiative of implementing in 1997 a list-server for the members was aborted after the assistant secretary general verified that about half of the members had no email address that could be used for possible contact. That has also prevented some collaborative initiatives in the area of open and distance learning where the association has a large potential for cooperation. The existence of different degrees of involvement of the members in the area of ICT has created some barriers to the development of joint CEE programs. Another barrier for cooperation in the technological area is the different levels of development of engineering that creates unbalanced needs for CEE actions.

Management Plan for the Next Years

The main objective for the management of IACEE in the next three years is to increase communication between members and with other interested parties in CEE. A list-server has been created, a discussion forum has been implemented in the association homepage and electronic newsletters are planned to complement the printed bulletin. The issue of communication and exchange of information is crucial to transform IACEE into a living organism with members with different backgrounds and functions but working together. The means to provide this active participation relies on the intensive use of ICT ranging from emails to videoconferences. The production of joint ODL programs is an objective allowing a globalization of CEE.

Another strategic objective is the networking with other related organizations and engineering parties. It is fundamental that the association participates in other actions like e-learning,

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recognition of CEE courses, provision of expertise in CEE, administration of training courses and qualification of engineers. This involves a close connection with the active members of society like the universities, industry, professional associations, nonprofit organizations and government officials. This can only be achieved by effective and generalized networking using ICT. It is fundamental that IACEE becomes flexible and active to become a reference in the area of CEE.

A third generalized goal of the association is to become a reference in the CEE global field. The immediate objectives are to create a CEE unit that may be used world wide, a system of quality evaluation of CEE courses and centers, a global document that allows transparency of the individual CEE records and a set of guidelines that define recommended practices in CEE. These are especially important when the mobility of engineers around the World is depending on the recognition of the initial engineering degree and on the continuing professional development achieved. These are particularly important when globalization is inevitable and when migration from regions to other regions is expected for qualified engineers. The World Trade Organization and UNESCO are interested in the creation of frameworks that facilitate this world mobility of engineers and IACEE intends to contribute to that global development.

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