K.J. Ray Liu
2012–2013 SPS President
kjrliu@umd.edu

Sustainable Finance

Some say that since IEEE is a nonprofit organization, it should not make a profit. Sounds very logical, right? Indeed, I expressed this sentiment, as most likely you did too! However, as I became more involved with volunteer activities, I started to understand that the story behind profit versus nonprofit goes deeper than that. A key question is, "How does the IEEE pay for member services that, on their own, lose money?" Member services are a part of infrastructure costs. Just like in a university or a company/institution, there are always overhead costs associated with running the organization.

Within our Society we have investments that we make in new member services, and we have volunteer expenses that we reimburse to help manage Society operations. We subsidize student activities, and we financially support some local Chapters. We cover the expense of hosting Distinguished Lecturers, we provide member support via about a dozen staff, we sponsor some broader IEEE activities, and more. Each of these activities "lose money," but they must be paid for. The funds we collect from Society dues do not even come close to covering expenditures.

Let me use the IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP) as an example. A typical ICASSP budget today is about US$1 million. We target a 20% surplus to build into the budget, requiring revenue of about US$1.2 million. Some counter that revenue should just cover the US$1 million cost, since we are a nonprofit organization. So where is the discrepancy? It lies in the overhead costs of our own Society operations and of the broader IEEE operations that we must support. Do you believe that with 20% surplus in conference budgets, the IEEE Signal Processing Society (SPS) still sees it as a money-losing proposition? I did not think so either.

To understand why the Society is always "in the red," we need to know the cost structure in IEEE's business model. SPS is one of 40+ Societies/councils under IEEE's Technical Activities Board (TAB). Above that, IEEE also has other units and employees to support its functions. Such an infrastructure incurs overhead to SPS. Rich Baseil, SPS's new executive director, sought the answer, which he reported to the Board of Governors. Here is a summary you may be surprised to learn.

SPS brings to the IEEE about US$16 million of gross annual revenue in publications, conferences, and Society membership, even more if one considers that SPS draws its members to IEEE membership and other products. About US$6 million of the US$16M is absorbed by IEEE to pay various IEEE-level costs. Of the US$10 million remaining, almost US$1 million is consumed by additional IEEE corporate overhead, and about US$800,000 is for TAB support. Out of the US$16 million in gross revenue, only US$8.2 million is available to cover Society costs.

A very important conclusion of the above facts is that for the Society to use US$1, we need to bring in US$2. The Society's US$1 is used to pay for all the direct costs in publications, conferences, staff salary, volunteers/students travels, etc. In Rich's analysis, once all the direct and allocated costs are considered for SPS conferences, we are not completely covering all of our costs, even with 20% surplus built in.

So where is the fundamental problem? IEEE needs a boost in efficiency. It is a huge organization that grew significantly over the past few decades. However, when technology advances, it should be leveraged to reduce costs. I recall when I organized a team leading the 2007 ICASSP in Hawaii. We were able to reduce registration fees while offering top quality services and foods by achieving an unexpected 30% surplus. One secret of our planning was that we entirely cut out postal mailing costs of communications and advertising, and eliminated the proceedings in hard copy unless purchased. Printing and mailing accounted for a significant portion of conference operations in the old days. In reducing those costs, we also ended up being more efficient. Indeed, with our larger than expected surplus, a student travel fund was established and lasted until now. Profit was not our objective.

Here is another example. For those of you who were active in publication before the 1990s, you may recall that once a paper was accepted, we needed to submit all the artwork. The IEEE would then retype and reformat the entire paper to produce the final version of the paper. An author would receive the proof via postal mail. All of these steps took three months. Today, the authors supply LaTeX files with all the drawings and figures in e-form. There is no need to retyp. One would question then why does it still take three months for the production, and with still increasing cost? Isn't it true that cost can be saved with more efficiency when new technology can be leveraged?

So how can we further reduce the cost of IEEE operations while keeping the quality of member services high? Perhaps it is time to reinvent the IEEE business model by reducing the cost structure through the efficient use of technology and to be leaner with improved management. We have a vibrant community of multitalented professionals. I welcome your ideas on improvements to help us stay competitive in the future!

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