

# Entrepreneurship Requires Cultural Change

**T**he Advanced Engineering Design and Research (AEDAR) Corporation opened an office in Blacksburg in 1997 to be in close proximity to the department's configurable and custom computing research so that it can hire some of the students in the program and collaborate with faculty and staff. The first series of technologies developed by the company are currently being commercialized.

On the surface, AEDAR's experience seems an ideal illustration of a workable model of university entrepreneurship. However, AEDAR president James Fabunmi disagrees. "It sounds good, what is happening here at the Corporate Research Center — but it is not yet entrepreneurship," he said.

AEDAR's mission is to fill the gap between academic research results and practical applications of advanced technology. Although technical advances can add value in the marketplace, they do not

*Jim Fabunmi, President of AEDAR Corporation. Background: AEDAR office building at the Virginia Tech Corporate Research Center.*



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always make for commercial success because they are not yet understood by the potential customers, Fabunmi explained. “You need to begin where the market is,” he said, “then bring it along by developing and educating the market.”

He used Virginia Tech configurable computing as an example. “Virginia Tech has the tools and the hardware technology. However, the market is not ready for what that technology can accomplish yet. Instead our company has only succeeded in selling derivative concepts.”

AEDAR’s current ventures are all commercial derivatives of academic research, Fabunmi said. The flagship product, BioPIN, uses an advanced algorithm to process fingerprint patterns for efficient biometric identification. The product is derived from the Extended Logic Information Processing System (ELIPS) custom computing technology developed from earlier research. “BioPIN allows the computer to use fingerprinting reliably and less expensively than what is currently available,” he said.

Another AEDAR venture, a computerized mobile bank, is low-tech but lucrative, Fabunmi said. A self-contained bank on an armored truck, it is currently being demonstrated in Ghana under a World Bank grant. “This venture responds to the needs of many in the world. In the Third World, banks are not computerized to the same degree as they are elsewhere; people literally hide their money in their mattresses. Money doesn’t recirculate through the commercial banks, and the economies suffer,” he explained. “We developed the computerized mobile bank by thinking backward from what the market needs to what we can produce.”

A third AEDAR product, Betacash.com, taps the BioPIN and mobile bank concepts. “We’re commercializing an Internet cash transaction system that is more elaborate than current ones, but is intuitive to the customer,” he explained.

The commercialization of these ventures was hastened by AEDAR’s collaboration with Tech students and faculty. Fabunmi is pleased with the results and is interested in formalizing a closer relationship with the university. “What we have been doing with the configurable computing team is a great concept, which could be more structured and encouraged. We are hiring Ph.D. students who study on

campus while being involved in a commercial venture. A situation like this could help Virginia Tech attract students who are the cream of the crop.”

“With its research capabilities, Virginia Tech has enormous potential,” he said. “The university has great technological resources and great students — it should be thinking about commercializing its technology in industry through entrepreneurship.”

“If Virginia Tech truly wants to encourage entrepreneurship, it almost needs to be born again.” There must be a culture change, he said. “Right now, there are some faculty members and students getting involved in start-up firms that are barely more than extensions of their academic research efforts, but that is not enough. Entrepreneurship means creating and marketing products and services that serve a large population of people. It involves a culture change...The whole world is changing,” he said. “Universities must also change to stay relevant.”

“In industry, it is important to do things when they need to be done. In academia, there seems to be a considerable lack of urgency. We seem to be in different worlds. If the university’s lack of urgency prevents me from achieving my goals, our relationship suffers, and so does the university’s chances of entrepreneurial success. I believe that relationships in business are the most important elements for success. You can build a business with no money, but you can’t build anything without relationships.”

Another cultural change that Fabunmi believes must occur for any university to become entrepreneurial is the appreciation of what activities are valuable. “In academia, individuals are often looking for personal recognition and fame. In industry, we are looking to meet the needs of others. We are looking to help them, to create something of value to others so that we get paid. It’s not a narrow divide.”

Universities that have been successful in developing their commercial potential have recognized the importance of the marketplace. “There has to be a commitment to the start-up firms,” he said. “But at the same time, it is not right to steamroll changes through without careful consideration of the effects,” he said.

“Virginia Tech should be capitalizing on its technological strengths in the marketplace.” However, doing so will require a cultural change, he warned.

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