

## A BUSINESS-ORIENTED VIEW OF THE ACADEMY

**Andrew J. Blanchard**

Director of Research, College of Engineering  
Professor of Electrical Engineering  
University of Missouri - Columbia

We have always perceived that the academic organization is different from its competitive counterparts. Part of that perception is driven by the fact that we have to be different in order to compete. That view is really a crutch that does not provide a leverage for our continued survival. There is a difference in the academy, but the difference is generated by a realization that we must be different not to beat our competitors, but to respond to a market that has changed. Once we realize that the market is different and describe those differences, we can structure our operational strategy to be competitive in that market. Then we will not only survive, but we will prosper.

*“The new barrier to entry is not volume or price; it is in finding the right fit between particular technologies and particular markets” (Robert Reich, *Point of View*, Spring 1991).*

What is the academic market? Who do we work for and what is our product? Once we define these entities, then we know how to develop some innovative approaches to meet those needs. Our market is the private sector of the global community. It is not government, and it is not academia! They may be our partners, they may be our intermediate customers, but they are not our market. In my view a market is described by an entity that creates wealth, not one that pays for the service. An example of this approach is illustrated by a government contract, some of which we have in our organization. The government pays for some delivered effort; however, wealth is created only when the industrial sector leverages that product to some delivered value to the public sector (the public sector includes the global community). Our approach then must incorporate the best components of the public and private sector, with a focus on developing and growing our extramural interfaces. How we accomplish that implementation will determine our competitiveness in the open market.

We could also define the creation of wealth in terms of the teaching and service missions of the academy. Wealth is created in the teaching environment because we transfer knowledge to individuals where that knowledge did not exist or where it is but poorly organized. When students leave the academy they are capable of creating wealth where they may not have been able to accomplish that task before they entered. Wealth is not completely synonymous with money. In the broadest sense it encompasses all of the end products generated by the scientists, the technologists, the humanists, etc. We can place value on the contribution of the art historian

who enables people to appreciate art and its impact on the human condition, just as we can also place value on the contribution of the technologist who can make a better and faster computer. The real wealth to be gained comes when the technologist and the art historian team up to use their particular contributions to leverage increased wealth.

*“In the High Value enterprise, profits derive not from scale and volume but from continuous discovery of new linkages between solutions and needs”* (Robert Reich, *Point of View*, Spring 1991).

We should note the tendency for the government labs to be privatized rather than nationalized. One interpretation is that the management structure in the private sector is more efficient and therefore the productivity of those entities is increased. In the nature of the changing market the more justifiable reason for privatizing the government lab structure is tied to the ability of the private sector to create wealth by translating the output of the lab to something of value. Currently the private sector has had only limited success in that effort. They have not recognized the change in the market. The Academy must, if we wish to succeed, develop an interface with the private sector, take an aggressive position of how public and private sector interfaces can be developed, and lead to the development of these relationships for the benefit of the state and the nation.

In the past, the view of the academy (internally and externally) has been that we are isolated from the goings on of the real world. We have had a tendency to place ourselves above the fray. However, "the fray" is where everything happens! This is especially true when the value of information is driven not by the individuals who create content, but by those who market the content.

Teaching advanced subjects has always been the purview of the academy. Until recently this was indeed the case. Several major companies currently market high level educational products and services to the academy's customer base (in Engineering, NTU has a 15-year history of providing engineering education at a distance; Microsoft Corporation is beginning to market higher education materials; and Phoenix University recently began service with internet-based education). Several companies have internal "universities" that service the needs of their employees. Most of these providers use the traditional academic resources (our professors) to develop and provide content material. They market what the academy produces.

*“The key assets of a high value enterprise are not tangible things, but the skills involved in linking solutions to particular needs”* (Robert Reich, *Point of View*, Spring 1991).

There are three attributes resident in the spirit of the academic institutional process that, once recognized, can guide the organization's success. Those attributes include "High Tech," "High Touch," and most importantly "High Value." "High Tech" because we provide innovative solutions to market-driven problems. "High Touch" because innovative solutions require an exceptional ability to recognize market needs. "High Value" because once those needs are recognized it takes courage to provide efficient, responsive, and marketable solutions. We can be different as an institution if we tailor our current capabilities and mission to adapt these values to the way we conduct our business.

*"Speed and agility are so important to a high value enterprise—Power depends not on formal authority or rank, but on capacity to add value"* (Robert Reich, *Point of View*, Spring 1991).

What skills should we nurture within the development of the new academic institution? Reich has identified three critical ones. First is an ability to uniquely develop solutions to problems—**problem solving skills**. This is one where we have experience. Sometime it is developed in our industrial, academic, or government training and experience. It is a diverse skill requiring expertise from a broad number of disciplines. To be effective it requires cooperation from a variety of people in an organization. To be successful it demands a new operational culture.

The next skill identified by Reich is less tangible—**problem identification skills**. These skills are developed rather than acquired. This process, instead of selling concepts, requires listening, understanding and finally developing a cohesive description of what the market wants. This is the custom part of the high value process. Rather than delivering standardized goods, the outcome of this activity is the development of a customized solution specific to customer needs.

Finally, problem solving and problem identification processes require integration—**brokering skills**. This is where the new culture of academia is effective. When the market needs are identified, someone assembles the correct set of problem identifiers and solvers, builds the correct interface between the private, government and academic sectors and guides the completion of the effort. This ultimately becomes a management of ideas.

*"Instead of a pyramid, the high-value enterprise looks more like a spider's web with strategic brokers at the nodes. Each point on the 'enterprise web' represents a unique combination of skills"* (Robert Reich, *Point of View*, Spring 1991).

This structure describes the mechanism for efficiently accomplishing the goals of problem solving and problem identification, and linking the results

of these two activities to the market (brokering). Most of the problems that lend themselves to such a solution process are complex and require interdisciplinary technology components. Our ability to respond to the challenge of the changing high value market, requires the evolution of an academic culture that has the following characteristics:

**Agility:** The ability to identify and respond to quick response market requirements.

**Speed:** An efficient system that allows decisions to be made with care, quality and expediency.

**Interdisciplinary:** Access to a broad variety of complex capabilities and thinking processes that characteristically are not integrated.

**Integration:** The ability to recover, use, and manage resources that exist both internally and externally.

**Communication:** The ability to transfer ideas, direction and information without fear of lost control, competition, survivability, etc.

**Change:** A common denominator in all institutions. Our response to and acceptance of change will allow our other skill sets to be developed.

**Accountability:** A real opportunity if we accept the task of proactively presenting our successes and accomplishments and the value of these to our investment community (the state, our students, our customers, etc.).

**Collaboration:** The process of turning a competitor into an ally. The process of setting aside all of our past and current biases to find innovative solutions to complex problems using partners that can deliver success collectively.

**Marketing:** We have to have presence in the national and international communities. Our constituent base must know who we are and what we represent. We must market ourselves as effectively and with all the skill sets of any major private corporation. If we do, we will be effective in accomplishing our goals.

**The Big Picture:** A recognition of the direction, focus and ultimate goals of the academic organization, by both our internal and external contributors.

The new academic culture does not exist in its entirety as yet. That is neither good nor bad, but reflects the nature of the process of change. We will ultimately be different than we are today. That process is continuous and occurs in many different ways—attitudes change, new people bring their changes to the operation, the market changes, and/or established faculty respond to different opportunities. All that remains is for us to be prepared to respond to opportunities when they present themselves.

Our strategy incorporates technical diversity, distributed responsibility, and focused implementation of specific objectives. With this approach we can quickly develop a broad customer base that requires individual customized services—High Tech, High Touch, High Value.