MEASURING THE INNOVATION READINESS OF CORPORATE INNOVATION STUDENTS

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ABSTRACT

This paper reports on a diagnostic approach used to evaluate the innovation readiness of graduate corporate innovation students who intend to work in the corporate innovation arena. The study found that compared to currently highly successful innovators as well as employees presently working in R&D departments and innovation centers in several companies, the students in this sample scored significantly lower on an innovation readiness diagnostic. Moreover, on a post-test following the course there was no significant improvement in their innovation readiness score. Although there is an urgent need as well as a growing demand to teach innovation in business schools, this finding raises some questions about whether or not innovation can be taught in the classroom setting. Subsequently, it then fuels the discussion about how business schools should deal with the important domain of innovation which is now a major priority with corporate America.

INTRODUCTION

The Economist proclaimed that innovation was the single most important ingredient in any modern economy (Kelley, 2005). Moreover, a recent survey of CEOs of publicly traded companies indicated that 72 percent of respondents said innovation was one of their top three priorities (Tucker, 2007). Yet, some research reveals that many companies and their employees may simply not be ready for innovation (Crane & Meyer, 2008a). This raises the question about who should be responsible for getting employees ready for innovation and how they should be readied. Some experts, for example, suggest that this responsibility starts with business schools. But according to current research the job is simply not getting done (Rae, 2006). In fact, a review of over four dozen MBA programs by the authors of this paper revealed that very few business schools have a "required" course on innovation and only a handful offer an elective course on the topic (Crane & Meyer, 2008a).

Our recent research on the innovation readiness of American corporations also reveals the majority of companies are not ready for innovation, organizationally or at the individual employee level (Crane & Meyer, 2008b). In fact, Tucker (2002) says that innovation in America is considered analogous to the mating of pandas – infrequent, clumsy, and not often effective. Therefore, the question for business educators is how to prepare future executives to be ready for innovation and to successfully manage it.

When it comes to defining the concept of innovation, we wish to be clear that innovation is not simply about new product development. Innovation is a broader construct that goes beyond new products. We assert that innovation is creating and implementing ideas that creates new customer value and sustains the growth of organizations. There are, by our estimation, anywhere from 15-22 categories of innovation that can be classified as either top-line or bottom-line initiatives to improve and sustain enterprise growth. These include discontinuous innovations (new-to-world products/technologies), new channel innovation, new branding innovation, new customer experience innovation, bundled/integrated solutions, value migration innovation, platform innovation, business model innovation, value engineering innovation, and process improvement innovation.

All of these innovations can be used in concert as a multi-prong approach to build, grow, and sustain an enterprise. This sheer range of innovation options often leaves executive teams and business faculty at a loss regarding precisely the type of individual and team skills that need to be nurtured with regard to the innovation process. In fact, our research shows that most companies do not have a working definition of innovation or a robust process for creating and implementing innovation (Crane & Meyer, 2008b). Still, this does not mean business school faculty can abdicate responsibility for addressing innovation in the business classroom. In fact, business school faculty must rise to the challenge – to help students of all ages to understand the dynamics of innovation.

WHY WE NEED TO TEACH INNOVATION

John Kao (2007) stated in his book, *Innovation Nation*, that he is concerned about America losing its global lead and becoming the fat, complacent Detroit of nations. He suggests we are under-investing in physical infrastructure, technology and education

when it comes to innovation. He argues that we need a big push to promote innovation. Curtis Carlson, head of the Stanford Research Institute, puts it in even darker terms: “India and China are a tsunami about to overwhelm us” (*The Economist*, 2007, p.19-20). He insists that America’s information technology, services, and medical-devices industries are about to be lost. He predicts that millions of jobs will be destroyed in our country, like in the 1980s when American firms refused to adopt total-quality management techniques while the Japanese overtook us. The only way out, Carlson argues is to “learn the tools of innovation” (*The Economist*, 2007, 19-20).

As evidence of the impending tsunami, China declared 2006 as the year of innovation. The Chinese government is now driving to transform its companies into not just 800-pound gorillas of low-cost manufacturing but also into innovation powerhouses (Tucker, 2007). In fact, the Chinese government is focusing on initiatives to ensure MBA programs in that country will emphasize innovation as a key educational pillar and will spend billions a year on research and development to support breakthrough ideas and technologies (Tucker, 2007). If America does not take immediate pro-active and comprehensive strategic action regarding innovation, it may soon be too late. In short, to remain competitive, America must not only focus on the discipline of innovation but also on the training and educating of people tasked with the job of innovation.

BUT CAN INNOVATION BE TAUGHT?

Even if you accept the premise that innovation must be taught in our MBA programs, another valid question remains: Can innovation be taught? This question has been subject to debate for many years now. In fact, we have been quietly noting conversations with colleagues in business, engineering and health sciences departments in educational institutions both here and abroad. Some maintain that innovation is the exclusive province of the super-creative who can dream up innovation spontaneously and therefore innovation is something that cannot be taught. For such individuals, teaching innovation would be a waste of time. But, those who make this argument, however, often confuse the constructs of creativity and innovation believing they are one in the same. Yet, it is possible to be creative and not necessarily innovative. Conversely, it is possible to be innovative and not necessarily creative. While creativity is coming up with ideas, innovation is all about putting those ideas to work. In other words, innovation is about the commercialization of ideas. Thus, is it perfectly plausible for individuals who are not the originators of the creative ideas but who see the value of putting them to work to be considered innovative. In short, this is the “prepared mind” argument. And, within this context, there is preponderance of evidence that innovation can be taught (deBono, 2000; Ditkoff, 2004; Nalebuff & Ayres, 2006; Seelig, 2006; Wycoff, 2005). For example, Seelig (2006) suggests that innovation is like any other subject. Just like science, music, or art can be taught, so can innovation. She suggests that innovation exists in everyone and with the right education, opportunities will increase hundredfold. Edward deBono (2000) originator of the “six hats method” has delivered innovation programs to thousands of executives around the world and has improved the innovation outcomes for the companies of these executives. And, Ditkoff (2004) and Wycoff (2005) both provide empirical evidence that their innovation programs taught to corporate executives also deliver benefits including more focused innovation and greater returns on the innovation investment made by corporate clients.

Still, it must be pointed out that success or failure at innovation does involve the interplay between both the organization and the individual within that organization (Christensen, 2005; Kanter, 2006). Certainly some are quick to lay the blame for innovation failure squarely on the organization. At the same, others argue that the lack of individual mental readiness for innovation is a systemic problem (Mokhoff, 2006; Schrage, 2000). However, if innovation, as reported, fails 96 percent of the time there is plenty of blame to go around and it is unlikely to be just the organization or just the individual (Keeley, forthcoming). For example, it is unlikely that an individual high in innovation readiness would be successful in an organization that is low in innovation readiness and/or fails to support individual innovation efforts. At the same time, an organization cannot hope to be successful at innovation if the individuals it employs are simply not ready for innovation.

While we recognize an organization can constrain or enable individual innovation in the workplace, the focus of this study is to determine if individuals can improve their sense of individual readiness through the learning process.

METHODOLOGY

Students enrolled in a graduate corporate innovation course were given an innovation readiness diagnostic test before commencing the course. This

diagnostic is a proprietary product developed by a consulting company and has been proved reliable and valid in assessing individual innovation readiness. In particular, the use of normative data measures illustrates its predictive value. For example, individuals who score high on this diagnostic have been found to be holders of multiple patents, have successful histories of leading new product teams and/or new venture teams, and have been involved in licensing self-developed technologies. In completing the diagnostic, respondents answer a series of questions using binary responses (yes/no) that pertain to the attributes known to be characteristic of innovative individuals such as curiosity, risk-taking, adaptability, optimism and resilience. The score range on the diagnostic is from 0-20 and higher scores indicate a higher degree of innovation readiness (QMA Consulting Group Ltd, 1990). Upon completion of the course, the students were given the test again to determine if their innovation readiness scores had improved. All 47 students completed both the pre-test and post-test instruments.

RESULTS/FINDINGS

The overall mean score on the pre-test was 9.93. There was no statistically significant difference in the scores between male and female subjects. This overall score was found to be significantly lower when compared to successful individual innovators in the corporate data pool (N=625) held by the QMA Group, developers of the instrument. The score was also significantly lower when compared to the average score of corporate employees who have been part of recent innovation training programs run by the authors of this paper. For example, highly successful individual innovators in the QMA Group pool score, on average, 17.0, while the corporate employees who have been part of our innovation training programs score, on average, 13.5.

The post-test overall mean score was 10.5, an improvement, but not a statistically significant one. This result was a little perplexing, if not disappointing, since post-test scores for corporate employees who had been through similar training/teaching programs run by the authors of the paper (and who were also the instructors for this particular class) showed statistically significant improvement in their innovation readiness scores. But, this did not occur in the case of the student group involved in this particular study.

CONCLUSIONS/LIMITATIONS

The ability to understand, lead, and deal with the consequences of innovation is considered to be one of the determinants of the success of the next generation of business leaders (Rae, 2006). Business schools are in a unique position to take a central role in advancing innovation as a discipline. While this one small study did not produce the anticipated results it does not mean we should abdicate our responsibility to continue to find ways to ensure that the discipline of innovation is taught and learned. In fact, we should view the findings in this study with some prudence. This was the first time this course was taught and the first application of the innovation readiness diagnostic in a traditional MBA classroom. Improvements in pedagogical development and delivery may result in a different outcome.

We encourage experienced and competent business faculty members who teach in the innovation arena to step up and become innovation course champions. Importantly, these innovation champions should share success stories including innovative course designs and pedagogical approaches. This will encourage the diffusion of innovation courses across the country as well as lead to their possible inclusion as integral components of the MBA curriculums. Including innovation courses in the MBA curriculum and teaching them effectively will be a major step in helping to ensure that corporate America will win the innovation race of the future versus being relegated to the position of an also-ran.

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