

Engineering management: Preparing engineering managers to drive technological and social change**Despo Ktoridou**

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Abstract:

Continuous technological, economic and social challenges influence higher educational institutions to equip students with the necessary knowledge, skills and competences to work in such challenging context. In the same context, today's businesses continuously seek innovative engineer-managers not only to design systems but to manage projects/design and development, create strategic plans, handle financing, interface with marketing and recognize and evaluate market opportunities. Management graduate education and Masters in Business Administration (MBA) are considered the most common degree programs offered by business schools worldwide. Even though both degrees serve their purpose well their comparison depends exclusively on the career goals and ways that graduates plan to utilize their degree. For the case of engineering education, engineer graduates tend to undertake management positions within the organizations they are employed with evidence from research showing that engineers who favor a managerial path have considerably stronger wish for promotion while engineers who clearly want to follow the technical path remain committed to system design. This is evidence that postgraduate studies in management are vital for engineers since more and more engineers need to develop management skills. Within this context, the authors describe and explain the philosophy and foundation that underlines the new Master of Science in Engineering Management at the University of Nicosia. They also provide evidence for the program's evaluation by three experts from industry and academia. The results of this study suggest that higher educational institutions should design such specialized management education programs for engineers who wish to recognize and evaluate market opportunities and understand the enterprise formation process. The globalization has converted the world into a small global village; a village in which there is an ever high stream of contentions and competitions between organizations. In this scenario the most effective and beneficial maneuver for any organization is to create innovative ways in conducting business. This thesis deals with the role of leadership in the phenomena of organizational change and innovation. The leader as a person in charge or as a change agent can manage an organization or the process of organizational change more effectively and successfully if h/she is capable and competent. Rapid technological advancements, high expectations of customers, and ever changing market situations have compelled organizations to incessantly reassess and reevaluate how they work and to understand, adopt and implement changes in their business model in

response of changing trends. Organizational change is a demand of the day, and needed for organizations to survive. Organizations now a day, well understand the importance of the matter, and are serious to prepare themselves not only the current, but also for the future trends to get the level of sustainable success, but Along with all of its implications and importance the process of organizational change is also a very complex and challenging. Research shows that 70 percent of organizational changes fail to get their goals. As leadership has a central role in evolution and cultivating an organization, the process of organizational change demands a very effective and highly competent leadership that is well capable to perceive the most desirable shape of an organization and address the issue of organizational change in most appropriate way. The analysis of literature reviewed and the results of real life cases of organizations which are studied for this thesis shows, that a leadership with the competencies of "Vision" and "Innovative Approach" along with other characteristics can prove more effective to conclude the complex phenomena of organizational change with success. Further the successful organizational change can lead to innovation for organization, which is the key of long term success and sustainability. This thesis as a result proposed a model which is derived from the leadership competencies, organizational change, and sustainable success and innovation literature. This model expresses relationship between successful organizational change and leadership on the basis of h/her characteristics, which are „Vision" and "Innovative Approach". With the help of proposed model this relationship can be viewed graphically.