ECEn 425

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As a largest religious university in US, Brigham Young University is not only striving to teach academic subjects to its students, but also trying to focus on helping students to be a good person, and citizen in general, implicitly a disciple of Christ. Along with the mission of BYU as a whole university’s mission, the Engineering College also suggests something called ‘Global leadership model’ for engineering students to be aware of and gained through their disciplines. Through the case studies I read and learned from the class, I would like to mention some of these leadership principles with specific examples.

From the Microsecond Market article that talks about High-frequency stock traing, Don Brook shows a good example of a global system leadership. As the global head of infrastructure for the NYSE, he emphasized fairness of infrastructure used by all stock traders. Even if it is wasteful to have kilometers of fiber-optic networking cable looping around in circle above the server racks, it is necessary to give equal chances to all, not giving any advantage to any particular person or organization over the other. The global leader understands the impact of the global economy and international business environment on organizations and communities, and if any leaders who is in the position like Don Brook don't abide with correct and right principles, the world will be in more of unnessary chaos.

Another example from the same article can be drawn with Bob Meade. He received a Ph.D degree in physics from Harvard and successfully built a fastest communication systems for high-frequency traders between New York and Chicago. As a individual and a member of his company, he is very impressive leader who effectively solves problems and accomplishes projects and organizational goals. However, with his accomplishment, it is hard to consider him as a leader with good global perspective because he has pursued to make money by promoting the high-frequency trading which might put the public at risk.

An investigation of the Therac-25 accidents show us that how important decisions made by the leaders are and how disasterous the results are when the leaders failed to make a wise decision. The Therac-25 accidents are considered as the most serious computer-related accidents. The primary party that seemed to lack of good leadership is ACEL, the company that developed Therac-25. It is known that ACEL had one software engineer who devleoped the software for Therac-25 for several years. From my experience of developing software, it is really hard to go through extensive testing for a software if I wrote it, because the developer tends to think that they debugged while writing and everything should work well. However, this is almost never true. Much more effort should have been made by the compnay to debug and test the Therac-25 software not by the developer himself. Anyone can know that this is critical because that software is sometimes determining remainder of some peoples' lives. If the leaders of the company were careful and considerate enough, they must have done more of testing and verifying. This case reflects that the personal characteristics of the global leadership model is so important in order to make ethical, wise, and value-based decisions.

Also, the leaders of FDA should have paid more attentions to the accidents involved with Therac-25. It is hard to believe that there were repeated accidents at the same place and they kept using the machine without examing carefully. If there were alert leaders who heard about this accident, they could have made some arrangement to identify the problem and prevent the machine from being used until the same problem was solved completely. Some people could have saved their lived with this approach.

Through the example cases above, we can learn that it is important to be a good leader as an individual, in an organization, and in a global system. I believe that through the education I have received so far in BYU, I have become better leader in these aspects, and I will strive to be better leaders as well.