SAMPLE STATEMENT OF PURPOSE – INDUSTRIAL ENGINEERING

Ever since I can remember, I have been fascinated by the way things work, from dismantling and maintaining my own bike to modeling a lift for apartments as a part of a science exhibition; my curiosity was directed at unraveling the functioning of devices. Egged on by my parents and teachers and my innate predilection for science and technology, a mechanical engineering degree was the logical career choice.

My undergraduate program was a judicious mix of theory and practice. Fascinating subjects like Operation Research, Engineering management, Automobile engineering, Total Quality Management, Process planning and cost estimation, Marketing management and Advanced IC engines -- compelled me to seek extended knowledge outside the realm of my syllabus. These not only enhanced my learning but also reflected in my excellent academic grades.

As part of my academic training, I undertook projects that tested my fundamentals and applied skills. All through my academic program, I had the desire to work on using alternative fuel sources for conserving the environment. This interest of mine received a fillip during my pre-final project where I designed a pressure burner using an alternative fuel source. I prepared a prototype model that simulated an original burner without fabricating the actual burner and accommodated the admission of Jatropha (Alternative Fuel), which is a highly viscous fuel with high ignition point. The project brought in appreciations from my department and a 90% score. My first success inspired and encouraged me to work on more challenging problems. Understanding the current global warming phenomenon, I decided to carry out my final year project work on reducing emission in Compression Ignition (CI) Engines.

Under the guidance of my mentor, I designed a Homogeneous Charge Compression Ignition (HCCI) setup and a wet type particulate matter filtering unit, successfully modeling the exact dynamics of the HCCI setup and closely observing and studying the admission of fuel and characteristics of the flame front along with other features. The apparatus helped reduce 80 % NOx and near zero carbon particulate matter was let to the atmosphere. The project was a grand success scoring 100% and was among the top three projects nominated for the best project award. In addition to this, I also underwent in-plant training at Bimetal Bearings Ltd, which is one of the leading manufacturers of automotive bearings, bushings and thrust washers. Here I received exposure to various process involved in manufacturing of bearings and several process automation machines including the process of batch
processing and automating on the production line that saved time and money. For the first time I realized how Operation Research and Lean Manufacturing technique work hand in hand in setting up the entire production system, thereby sparking an instant fascination for the area. Apart from this, I successfully completed an in plant training at Lakshmi Machine Works, one of the CNC manufacturing giants in India, where I was exposed to various manufacturing systems like Lathe bed manufacturing, employing a heavy duty vertical 5-axis machining center manufactured by Shin Nippon Koki Co., Ltd. During my stint here I had an opportunity to visit some of the best industries in India like Hindustan Aeronautics Ltd (HAL), Cochin Refineries, Hindustan Machine tools, Titan Industries etc. further gave insight into group technology, cellular manufacturing and MRPII, these visits helped me gain valuable experience in the Industry.

My experiences to that point convinced me of the need to pursue higher education in the area; however, an offer to gain valuable industrial experience came in the way of an opportunity to work with Kalki Communication Technologies Limited. The core function being mathematical modeling of power plant. Here, I got an opportunity to be a part of a multifaceted team of domain specialists, software developers and project managers and familiarized to various modeling challenges, optimization and diagnostic techniques. The products and services in which I was directly involved in design and implementation included Economic dispatch, plant performance monitoring and alarm analysis. While working on this domain, I understood and realized the potential of Operations research and its effect on the performance and revenue of the process.

The deliverables that I worked on during my stint were implemented in many power plants across India and Middle East, including NTPC plants through renowned OEM's like ABB India Ltd, Yokogawa India Ltd, Yokogawa Middle East Ltd. The product knowledge and services I have rendered to these customers helped me carve a niche for myself. I also used my software skills in VB6, Java and UML effectively to design some of the delicate algorithms. With the techno-functional expertise I gained over a period of time, I successfully reviewed the codes and honed the products. In recognition of my performance, I was appraised as the best performer 2006-07, 2008-09 and was awarded a Skip level promotion as Assistant Manager in the same product division. In the role of Assistant Manager, I got a deep insight in the business process and was selected for TMLD (An elusive Talent Management Leadership Development Program of KALKITECH to groom a very few handpicked promising managers into effective leaders). The training sessions of TMLD on leadership, creative
innovation, quality, project and resource management honed my skill sets.

I also underwent a company sponsored ISO 9001:2000 Internal auditor training conducted by TUV Rheinland and successfully conducted many internal audits and was judged as the best internal auditor 2007-2008. My astute thinking and detailed knowledge of the process earned me the coveted position of process owner – products and was offered a chance to assist MR in framing and defining the organizational structure and process. I have also co-authored a paper on "Integrated decision support system for ABT" published in the proceedings of "Power India Conference", 2006 IEEE, DOI 10.1109/POWERI.2006.1632583

It was around this time that I felt the need for utilizing the latest optimization and decision making techniques and its design to accentuate my candidature motivating me to undertake a course in Industrial Engineering. Some of the subjects that I would like to concentrate on include Operations research and supply chain management in real world scenarios. Process optimization, Supply chain modeling and analysis, decision processing, Numerical optimization and Stochastic Processes and probability.

Towards this, I am particularly interested in ____________________'s work and believe that his/her group's contribution in ____________________ will be vital in the years to come. Additionally, their work is in line with my current training level and interests, which make it an ideal choice for me. In addition exposure to cutting edge technology and a stimulating on campus life would contribute immensely in the development of my over all personality. Towards this your institution seemed a natural choice considering the repertoire of resources and presence of world-class faculty that are involved with the program.

I am confident that with my Undergrad Degree in Mechanical Engineering and Industry related experience including techno-functional expertise in optimization solutions, Project Management experience, personal traits like quest for detail, inquisitiveness and desire to excel ,and passion to lead teams make me a strong candidate for a Post Graduation degree in Industrial Engineering. Post master's, I would like to work with a research and development team and aid in contributing towards advancement of technology. It is against this backdrop that I would earnestly implore you to consider my candidature, hoping that you would provide me an opportunity to be a part of your esteemed institution.