3rd Research Scholars’ Day

5th November 2016

Head of Department
Dr. R.R.K. Sharma

Event Co-Ordinator
Dr. Subhas Chandra Misra

Student Coordinators
Vinayak Drave
Somen Dey
About the Department

Set up in 1974 as an interdisciplinary program, the Department of Industrial and Management Engineering (IME) at IIT Kanpur was one of the first in the country to leverage the analytical education of engineers in the training of management professionals. The program subsequently evolved as a full-fledged department in 1988. Under the aegis of IIT Kanpur, known for its vibrant academic culture, the IME department has become one of the well regarded departments of industrial engineering and management in India.

The department currently has 19 faculty members with PhDs from reputed universities within and outside India, having interests in diverse fields such as quantitative and statistical decision modelling, operations and supply management, manufacturing systems, finance, marketing, economics, analytics, infrastructure, IT, Innovation, Intellectual Property Management and knowledge management.

The department encourages active collaboration with industry as well as other academic institutions. The department receives several faculty applications every year from candidates interested in its research oriented environment. The aim of the department is to continue to excel in its research and training programs, promoting both technical and managerial skills as well as higher ethics and values.
## Programme Structure for 3rd Research Scholars Day

<table>
<thead>
<tr>
<th>S.N.</th>
<th>Time</th>
<th>Program</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>09:00 - 09:20 AM</td>
<td>Inaugural function, felicitated by HOD and opening address by Mr. Vinayak Drave (PhD Scholar)</td>
</tr>
<tr>
<td>2</td>
<td>09:20 - 09:40 AM</td>
<td>High Tea</td>
</tr>
<tr>
<td>3</td>
<td>09:50 - 10:40 AM</td>
<td>Presentation by Prof. (Dr.) Arun Kumar Sharma (Guest speaker, HSS Dept.) Seminar Topic: Effective methods and approaches to conduct and write a research work Forenoon Session Chair: Dr. Shankar Prawesh (Asst. Professor, IME Dept.)</td>
</tr>
<tr>
<td>4</td>
<td>11:00 -11.20 AM</td>
<td>Presentation by Ms. Ridhima Agarwal (PhD Scholar) Seminar Title: Start-up valuation and role of venture capitalists: a literature review</td>
</tr>
<tr>
<td>5</td>
<td>11:25 - 11:45 AM</td>
<td>Presentation by Mr. Vikas Sangwan (PhD Scholar) Seminar Title: Taxation and dividend policy</td>
</tr>
<tr>
<td>6</td>
<td>11:50 - 12:10 PM</td>
<td>Presentation by Mr. Tamerat Kebede Mekonnen (PhD Scholar) Seminar Title: Impact of aggregation of retailers on bullwhip effect in presence of information sharing</td>
</tr>
<tr>
<td>7</td>
<td>12:15 - 01:15 PM</td>
<td>Presentation by Dr. Sharadindu Pandey (Guest Speaker, IIFM Bhopal) Seminar Title: The Research Agenda for the Natural Resources based Industries of India</td>
</tr>
<tr>
<td>8</td>
<td>01:30 - 02:00 PM</td>
<td>Lunch break</td>
</tr>
<tr>
<td>9</td>
<td>02:15 - 02:35 PM</td>
<td>Presentation by Mr. Ajay Jha (PhD Scholar) Seminar Title: Developing Open Source Innovation and Technology Management Strategy</td>
</tr>
<tr>
<td>10</td>
<td>02:40 - 03:00 PM</td>
<td>Presentation by Mr. Manohar Giri (PhD Scholar) Seminar Title: Factors affecting changes in life insurance consumption in Indian households</td>
</tr>
<tr>
<td>11</td>
<td>03:00 - 03:20 PM</td>
<td>Presentation by Mr. Vimal Kumar (PhD Scholar) Seminar Title: Role of SMAC Stack on competitive advantage and innovation with supply chain performance</td>
</tr>
<tr>
<td>12</td>
<td>03:20 - 03:30 PM</td>
<td>Tea Break</td>
</tr>
<tr>
<td>13</td>
<td>03:50 - 04:30 PM</td>
<td>Presentation by Prof. R.N.Sengupta (Guest Speaker, IME Dept. IIT Kanpur)</td>
</tr>
<tr>
<td>14</td>
<td>04:30 – 05:10 PM</td>
<td>Presentation by Dr. Faiz Hamid (Guest Speaker, IME Dept. IIITK) Seminar Title: Solving the Two-Facility Network Design Problem with 3-Partition Facets</td>
</tr>
<tr>
<td>15</td>
<td>05:10 - 5:30 PM</td>
<td>Distribution of certificates &amp; Closing ceremony and Vote of Thanks by Mr. Somen Dey (PhD Scholar)</td>
</tr>
</tbody>
</table>
Organizing Committee

Patron
Prof (Dr.) R. R. K. Sharma
Professor and Head
Department of Industrial and Management Engineering
Indian Institute of Technology Kanpur

Faculty Coordinator (RSD)
Dr. Subhas Chandra Misra
Associate Professor
Department of Industrial and Management Engineering
Indian Institute of Technology Kanpur

Student Coordinators (RSD)
Mr Vinayak Arvind Kr. Drave
PhD. Research Scholar (3rd year)
Department of Industrial and Management Engineering
Indian Institute of Technology Kanpur

Student Coordinators (RSD)
Mr Somen Dey
PhD. Research Scholar (2nd year)
Department of Industrial and Management Engineering
Indian Institute of Technology Kanpur

Supporting Coordinator (RSD)
Mr Mahfuzuar Rahman Barbhuiya
PhD. Research Scholar (1st year)
Department of Industrial and Management Engineering
Indian Institute of Technology Kanpur
Keynote Speakers

Prof (Dr.) Arun Kumar Sharma
Professor, Department of Humanities and Social Sciences
Indian Institute of Technology Kanpur
Seminar Topic: Effective methods and approaches to conduct and write a research work

Prof (Dr.) Raghu Nandan Sengupta
Professor, Department of Industrial and Management Engineering
Indian Institute of Technology Kanpur
Keynote Speakers

Dr. Sharadindu Pandey
Assistant Professor, (Strategic Management)
Indian Institute of Forest Management Bhopal
Seminar Title: The Research Agenda for the Natural Resources based Industries of India

Abstract: The industries who rely on the natural resources for their competitiveness may be termed as natural resource based industries. The seminar draws various examples from the completed and in-Progress projects. These projects open up many research themes apart from its main flow of research. The project example include the market based valuation of the natural resource, exploring sustainable energy and raw material sources for the industry etc. The seminar may help an academic researcher to frame a model which has potential to sustain long and stand the test of Stakeholder’s conflicting interests.
Abstract: The research studies the problem of designing telecommunication networks using transmission facilities of two different capacities. The point-to-point communication demands are met by installing a mix of facilities of both capacities on the edges to minimize total cost. We consider 3-partitions of the original graph which results in smaller 3-node sub problems. The extreme points of this sub problem polyhedron are characterized using a set of propositions. A new approach for computing the facets of the 3-node sub problem is introduced based on polarity theory. The facets of the sub problem are then translated back to those of the original problem using a generalized version of a previously known theorem. The approach has been tested on several randomly generated and real life networks. The computational results show that the new family of facets significantly strengthen the linear programming formulation and reduce the integrality gap. Also, there is a substantial reduction in the size of the branch-and-bound (B&B) tree if these facets are used. Problems as large as 37 nodes and 57 edges have been solved to optimality within a few minutes of computer time.
Ms Ridhima Agarwal  
PhD Research Scholar  
Department of Industrial and Management Engineering  
Indian Institute of Technology Kanpur  

Seminar Title: Start-up valuation and role of venture capitalists: a literature review

Abstract: Here we review the literature that has been done on new ventures from various aspects. We briefly describe the current valuation models that are used for valuing firms. And since those models have been built keeping in mind public companies, they are not suitable for valuing start-ups. Though some researchers have modified these models for valuing start-ups, they are still generally not used because the inputs required do not change much with the proposed models. We find that entrepreneurs focus more on industry, competition and their abilities whereas investors value entrepreneur and team more when valuing start-ups. Finally we see that investors, especially venture capitalists, mitigate problem of information asymmetries and also provide financial and managerial support. Network effect of venture capitalists also plays an important role at the time of exit and in supporting the entrepreneurial firm.
Mr Tamerat Kebede Mekonnen
PhD Research Scholar
Department of Industrial and Management Engineering
Indian Institute of Technology Kanpur

Seminar Title: Impact of aggregation of retailers on bullwhip effect in presence of information sharing

Abstract: In this paper, we study the impact of aggregation of retailers on bullwhip effect in the presence of information sharing. We compare two supply chain structures: Multiple retailers versus single “big” retailer who faces total demands of all retailers. Retailer’s demands are modelled by independent first-order autoregressive processes. We consider three levels of information sharing: No information sharing, demand information sharing, and vendor managed inventory system. We assume base-stock policies for retailer’s and distributor’s stock replenishment. We consider both deterministic and stochastic lead times. Our findings suggest that aggregation of retailers reduces bullwhip effect in every level of information sharing, unless most of the retailers face demand with positive correlation. This “dominance” of aggregation of retailers seems to reduce when the lead times are stochastic.
Mr Vimal Kumar
PhD Research Scholar
Department of Industrial and Management Engineering
Indian Institute of Technology Kanpur

Seminar Title: Role of SMAC Stack on competitive advantage and innovation with supply chain performance

Abstract: The purpose of the study is to investigate the relationship between SMAC capabilities in productivity, innovation and competitive advantage for supply chain performance. This paper shows that how SMAC technologies insight into business issues to increase supply chain performances. So, the main objective is to develop a model to transform the organization into sustainable businesses. More specifically, authors developed a theoretical framework which finds that SMAC (Social media, Mobile, Analytics, and Cloud) capabilities have a positive impact on supply chain performance in terms of productivity, competitive advantage, and innovation. The paper draws from literature and experiential knowledge of the authors with the perspective of SMAC technologies in supply chain management to address the objective of the paper. Keywords: SMAC, supply chain, productivity, innovation, competitive advantage.

Mr Vikas Sangwan
PhD Research Scholar
Department of Industrial and Management Engineering
Indian Institute of Technology Kanpur

Seminar Title: Taxation and dividend policy

Abstract: Value of a firm changes in the presence of market imperfections. One such imperfection is taxation on dividends. In the presence of dividend taxes, value of a firm changes. We try to look at how difference in taxation policy on dividends and capital gains impact firm’s valuation.
Strategic management calls for firms to establish and exploit competitive advantage within a particular environmental context. High technology domain is highly turbulent in terms of both supply and demand; accentuated by globalized and interconnected business environment. This sector is highly innovation-driven demanding strong R&D for developing and applying the new technologies for competitiveness. Traditionally, large companies adopted closed innovation approach with research, development and commercialization done under its four walls which result in appropriating the benefits under the veil of IP protection and as first mover advantage. However the story is different in 21st century with globalization and spread of technology there is increasing availability and mobility of knowledge workers, the flourishing venture capital markets, and better equipped external suppliers and manufacturers that undermine the effectiveness of the traditional closed system (Chesbrough, 2003). There is shift towards open innovation as a strong technology management strategy which serves wider adoption and development of technology (more so in high technology sector). In this part of PhD work we are going to analyze the factors that led companies to reveal or open source their innovations and led to establishment of their technology in scenario dominated already by a proprietary player. We have adopted Case Study Methodology to reveal and conceptualize the basis of adopting such strategy. Though in our discussion, cases are analyzed by grouping competitors exclusively into closed and open, but in real situations these strategies can be intermingled. We used literature related to the strategic-choice view in the context of dominant designs, compatibility standards and platforms. We also used credible internet sites like MIT Sloan, Harvard Business Review, Forbes Management news, IDC, Gartner, Wiki and analysts blogs/reports to generate insights in developing the theory. As a bench mark for technology dominance we took Suarez’s model and insights from the technologies competition literature to study our 7 case studies on technology wars. The study contributes to the strategic-choice view by developing a framework that can be used to support strategic decision of proprietary/open source mode of a technology management leading to dominant technology.
Mr Manohar Giri
PhD Research Scholar
Department of Industrial and Management Engineering
Indian Institute of Technology Kanpur

Seminar Title: Factors affecting changes in life insurance consumption in Indian households

Abstract: How socio-economic factors affect life insurance consumption is a question that has typically been studied using cross-sectional data by comparing households that have insurance coverage to households that don't. Few studies have tracked changes in life insurance consumption over time within the same household. In this study, we use a unique short panel dataset comprising of 34,621 households included in the Indian Human Development Survey (IHDS) in 2004-05 and 2011-12. We build logistic models to understand factors that affect either the acquiring of or discontinuation of life insurance policies in urban and rural households. Financial conditions indicated by ownership of movable assets and improvement or deterioration of financial conditions, initiation of a relationship with a bank, education levels of the household head and increase or decrease in education as well as awareness of insurance were some of the variables that had statistically significant effects on purchase of life insurance. In rural households, financial distress signalled by a decrease in consumption or sale of land had a negative effect. We found similar and opposite effects of these variables on discontinuation of insurance coverage in both rural and urban households. We conclude that there is a large unmet demand for life insurance in India. Improvement in financial conditions, financial inclusion and an increase in education will lead to greater levels of life insurance coverage in the country.