T A Pai Management Institute
Manipal

Max-Planck-Institut für Bildungsforschung
Max Planck Institute for Human Development

INSTITUTE OF PSYCHOLOGY
Chinese Academy of Sciences

TAPMI – MAX PLANCK – CHINESE ACADEMY

WINTER SCHOOL ON BOUNDED RATIONALITY 2020

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Dear Participants,

I take great pleasure in welcoming you all to TAPMI, Manipal for the fourth Winter School on Bounded Rationality. The Winter School is run in collaboration with the Max Planck Institute for Human Development, Berlin (MPIB) and the Institute of Psychology (IP) of the Chinese Academy of Sciences (CAS). Herbert Simon (1955), a polymath and an early visionary in this field, introduced the term bounded rationality perhaps a more realistic conception of human problem-solving capabilities. The central aim of the Winter School is to foster such an understanding of the processes underlying human decision making, and to apply this knowledge to the real world, enabling people to make better decisions under uncertainty and complexity.

This year, we received around 110 applications for the Winter School, of which invitations were sent to 41 participants from top schools around the world. The selected group is truly interdisciplinary, with scholars from varied areas such as economics, finance, psychology, philosophy, cognitive science, biology, medical decision making and other allied areas of management.

This edition also sees a blend of academicians and practitioners, to discuss the implications of behavioral sciences to public policy, with focus on Nudging and Boosting. Several workshops and social events have been planned to make the Winter School lively and experiential for you.

I hope the Winter School participants are able to discuss their research and learn from experienced faculty, industry experts and more importantly from each other. I wish to thank all the faculty members for their continued academic service at the winter school, the Max Planck Institute for Human Development and the Chinese Academy of Sciences (CAS) for the collaboration and wish the Winter School a great success.

Madhu Veeraraghavan
Director and T A Pai Chair Professor of Finance
T A Pai Management Institute (TAPMI)
Manipal, INDIA

Message from the **Directors**

Dear Participants,

The Max Planck Institute for Human Development welcomes you to the 2020 TAPMI-MAX PLANCK-CHINESE ACADEMY WINTER SCHOOL ON BOUNDED RATIONALITY in Manipal! The School will offer you a forum for a truly challenging dialogue on decision making.

The study of bounded rationality has two goals. The first is to study how individuals and institutions actually make decisions. Understanding these processes would advance beyond as-if theories of maximizing expected utility. The second goal is to extend the study of decision making from situations of calculable risk, where it is assumed that people have perfect foresight, to situations of uncertainty, as in the real world of business, healthcare, or investment. The methods to achieve these goals include the study of (i) the adaptive toolbox, that is, the heuristic (and other strategies) people have at their disposal and (ii) the ecological rationality of these tools. The study of ecological rationality analyzes the match between a heuristic and the environment and thus differs from logical rationality, which looks only at the consistency of decisions.

The Winter School will teach the theory and methodology of bounded rationality but also will give information about applications to various fields including healthcare, business, finance, and everyday life. In addition, it will demonstrate how one can help people to make better decisions. Most important, the School offers a dialogue between different visions of rationality, of explaining and evaluating people's decisions, and about governmental policy making. The Winter School is a place to stop one's busy life in order to take a pause and take time to think and to learn, for participants and faculty alike.

I am looking forward to a lively and fruitful discussion!

Ralph Hertwig
Director
Adaptive Rationality
Max Planck Institute for Human Development, GERMANY

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RALPH HERTWIG

Ralph Hertwig is the Director of the Center of Adaptive Rationality (ARC) at the Max Planck Institute (MPI) for Human Development in Berlin. Before taking on his role as an MPI director in 2012, Hertwig was a Professor for cognitive and decision sciences and later a Dean at the University of Basel, Psychology Department. Early in his career, he was a researcher at Columbia University, University of Chicago, and the MPI's Center for Adaptive Behaviour and Cognition. He has been awarded several prizes for his research and teaching. His research focuses on models of bounded rationality such as simple heuristics, on decisions from experience, on deliberated ignorance, and on boosting competences.

Keynote Talk:

Boosting and Nudging and the Science of Engineering Good Decisions

January 13, 2020: 11:30-13:00

SHYAM SUNDER

Dr. Shyam Sunder is the James L. Frank Professor of Accounting, Economics, and Finance at the Yale School of Management and Professor in the Department of Economics. He is a renowned accounting theorist and experimental economist. His research contributions include financial reporting, information in security markets, statistical theory of valuation, and design of electronic markets. He is a pioneer in the fields of experimental finance and experimental macroeconomics. Dr. Sunder has won many awards for his research that includes ten books and more than 200 articles in the leading journals of accounting, economics and finance, as well as in popular media. Dr. Sunder's current research includes the problem of structuring U.S. and international accounting and auditing institutions to obtain a judicious and efficient balance between regulatory oversight and market competition. He is a past president of the American Accounting Association, former director of the Millstein Center for Corporate Governance and Performance at Yale, honorary research director of Great Lakes Institute of Management in Chennai, and distinguished fellow of the Center for Study of Science and Technology Policy in Bengaluru.

Keynote Talk:

What Do We Know About Human Attitudes Towards Risk?

January 14, 2020: 11:30-13:00

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Schedule for Winter School on Bounded Rationality

Day 1- January 13, 2020
Nudging and Boosting

10:00 – 11:00
Inaugural Session
(KK Pai Block, Seminar Hall)

11:00 – 11:30 Tea Break

11.30 – 13:00
RALPH HERTWIG
Boosting and nudging and the science of engineering good decisions
(KK Pai Block, Seminar Hall)

13:00 – 14:00 Lunch

14:00 – 15:30
ARUN MAIRA
Policy-Emerging: Thinking and acting within an open system
(TMA Pai Block, G4 Classroom)

15:30 – 16:00 Tea Break

16:00 – 17:15
Photo-Shoot and Campus Tour
(TAPMI Greens)

17:15 – 18:00
Open Discussion
Starting a society for JDM in India?
(TAPMI Greens)

19:00 – 20:30
Dinner (self-arranged)

Day 2- January 14, 2020
Risk Literacy

9:30 – 11:00
MICHELLE McDOWELL
A risk literacy challenge:
Turning evidence into understanding
(TMA Pai Block, G4 Classroom)

11:00 – 11:30 Tea Break

11:30 – 13:00
SHYAM SUNDER
What do we know about human attitudes towards risk?
(TMA Pai Block, G4 Classroom)

13:00 – 14:00 Lunch

14:00 – 15:30
MICHELLE McDOWELL
Workshop: Communicating scientific evidence: [Non]-transparent design
(TMA Pai Block, G4 Classroom)

15:30 – 16:00 Tea Break

16:00 – 17:30
Panel Discussion on Behavioral Sciences for Public Policy
Panellists: **Ralph Hertwig, Arun Maira, Shyam Sunder, Anisha Singh, Madhu Veeraraghavan, Kavitha Ranganathan**
(KK Pai Block, Seminar Hall)

19:00 – 20:30 Social Dinner

Day 3- January 15, 2020
Models of Bounded Rationality

9:30 – 11:00
SHENGHUA LUAN
History of fast and frugal heuristics
(TMA Pai Block, G4 Classroom)

11:00 – 11:30 Tea Break

11:30 – 13:00
ÖZGÜR SIMSEK
Models of bounded rationality
(TMA Pai Block, G4 Classroom)

13:00 – 14:00 Lunch

14:00 – 15:30
SHENGHUA LUAN
Workshop: How to construct fast and frugal trees?
(TMA Pai Block, G4 Classroom)

15:30 – 16:00 Tea Break

16:00 – 17:30
Poster Session 1
(TAPMI Courtyard)

19:00 – 20:00
Dinner (Self-arranged)

20:00 – 21:00
SANJAY KALLAPUR
Dessert Talk: Intuitive Statistician
(TMA Pai Block, G4 Classroom)

Day 4- January 16
Heuristics in the

9:30 – 10:45
KAVITHA RANGA
Heuristics for financ
(TMA Pai Block, G4

10:45 – 11:00 Tea B

11:00 – 12:30
KONSTANTINOS
Classification in the
(TMA Pai Block, G4

12:30 – 13:30
T T NIRANJAN
Crying Wolf and a K
Deliberate bilateral
distortion in supply
(TMA Pai Block, G4

13:30 – 14:30 Lunc

15:00 – 15:30
Social Outing

15:30 – 16:00 Tea B

16:00 – 17:00
MADHU VEERAR
Workshop on Acade
(At the Resort)

19:00 - 20:30
Social Dinner

, 2020 e Wild	Day 5- January 17, 2020 Modelling Heuristics	Day 6- January 18, 2020 Experience-based Decision Making	Day 7- January 19, 2020 The Big Picture
NATHAN cial decision-making Classroom)	9:30 – 11:00 **JAN WOIKE** Approaching simple heuristics with computer simulations (TMA Pai Block, G4 Classroom)	9:30 – 11:00 **HERSH SHEFRIN** Climate change and severe bounded rationality (TMA Pai Block, G4 Classroom)	9:30 – 11:00 **KONSTANTINOS KATSIKOPOULOS** The art and science of transparent decision-making (TMA Pai Block, G4 Classroom)
Break	11:00 – 11:30 Tea Break	11:00 – 11:30 Tea Break	11:00 – 11:30 Tea Break
KATSIKOPOULOS e wild Classroom)	11:30 – 12:45 **ÖZGÜR SIMSEK** Ecological rationality of simple decision heuristics (TMA Pai Block, G4 Classroom)	11:30 – 12:45 **DIRK WULFF** The Description-Experience gap (TMA Pai Block, G4 Classroom)	11:30 – 13:00 **Concluding Session** (TMA Pai Block, G4 Classroom)
nowing Wink: information chains Classroom)	12:45 – 14:00 Lunch	12:45 – 14:00 Lunch	13:00 – 14:00 Lunch
h	14:00 – 15:30 **JAN WOIKE** Workshop: Classification Challenge 2020 (TMA Pai Block, G4 Classroom)	14:00 – 15:30 **SUMITAVA MUKHERJEE** Measuring prospective experiences about gains and losses (TMA Pai Block, G4 Classroom)	
Break	15:30 – 16:00 Tea Break	15:30 – 16:00 Tea Break	
AGHAVAN mic Writing	16:00 - 17:30 **Poster Session 2** (TAPMI Courtyard)	16:00 – 17:30 **DIRK WULFF** Workshop: Harnessing simulated experience (TMA Pai Block, G4 Classroom)	
	19:00 – 20:00 Dinner (self-arranged)	19:00 – 20:30 Dinner (self-arranged)	

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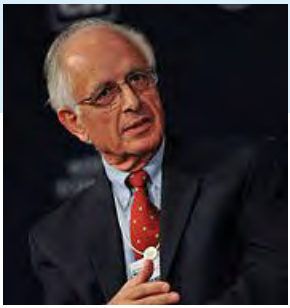

ARUN MAIRA

Arun Maira has an unusual combination of hands-on leadership experience in both the private sector and the public sector, as well as in consulting with leaders in the corporate, government, and social development sectors in many countries. He worked with the Tata Group for 25 years in many leadership and board level positions in in India and abroad. He was CEO of Innovation Associates in the USA, and Chairman of the Boston Consulting Group in India. He was on the advisory boards of the UN Global Compact and the Global Economic Symposium.

Arun Maira served as a Member of the erstwhile Planning Commission of India from 2009 to 2014. Presently, he is Chairman of HelpAge International.

He has written several books, including Remaking India: One Country, One Destiny; Shaping the Future: Aspirational Leadership in India and Beyond; Redesigning the Aeroplane While Flying: Reforming Institutions; and Listening for Well-Being: Conversations with People Not Like Us. His most recent book is, Transforming Systems: Why the World needs a new Ethical Toolkit.

Talk 1 - Jan 13, 2020: 14:00-15:30:

Policy-Emerging: Thinking and Acting within an Open System

MICHELLE MCDOWELL

Michelle McDowell is a research scientist at the Max Planck Institute for Human Development and the Harding Center for Risk Literacy. Her research focuses on promoting balanced and transparent risk communication formats to facilitate decision making. Her recent focus has been on determining how best to summarise medical evidence to support understanding, and to address challenges to the translation of evidence for use in decision tools. She is interested in improving the visual communication of information and designing more ecological presentation formats that improve comprehension. She is also interested in understanding what people know about the risks they face in the digital world.

Talk 1	Jan 14, 2020: 9:30-11:00	A Risk Literacy Challenge: Turning Evidence into Understanding
Workshop	Jan 14, 2020: 14:00-15:30	Communicating Scientific Evidence: [Non]-Transparent Design

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ANISHA SINGH

Anisha joined Busara as a Research Engagement Director in February 2019 to handle the portfolio of research within Busara's Labs division. Prior to joining Busara, Anisha was engaged with IFMR LEAD in India and managed experimental and non-experimental research in financial inclusion. She holds an MSc in Social Cognition from University College London (UCL) and a BSc in Economics from Singapore Management University.

Panel Discussion - Jan 14, 2020: 16:00-17:30:
Behavioral Sciences for Public Policy

SHENGHUA LUAN

Shenghua Luan is the principal investigator of the Risk and Uncertainty Management (RAUM) lab at the Institute of Psychology, Chinese Academy of Sciences (CAS). The start fund of the lab comes from a "Pioneer 100 Talents Program, Category A (Academic Leaders)" grant awarded to Shenghua by the CAS. Shenghua is a cognitive psychologist who has a wide range of interests in judgment and decision-making research, including heuristics in judgment and decision making, group decision processes, wisdom of the crowds, organizational and managerial decision-making, human cooperative behaviour, risk communications, and sports and business forecasting. In his research, Shenghua combines the descriptive approach (i.e., how do people make judgments and decisions?) with a prescriptive one (i.e., how can we help people improve their judgments and decisions?) and applies a variety of methods for investigation (e.g., human experiments, cognitive modeling, computer simulations, and analysis of archival data). Findings of Shenghua's research have been published in top-tier journals, including Psychological Review, the Academy of Management Journal, Organizational Behavior and Human Decision Processes, and Journal of Behavioral Decision Making.

Talk 1	Jan 15, 2020: 9:30-11:00	History of Fast and Frugal Heuristics
Workshop	Jan 15, 2020: 14:00-15:30	How to Construct Fast and Frugal Trees?

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ÖZGÜR SIMSEK

Özgür Simsek is a Senior Lecturer in Machine Learning at the Department of Computer Science at the University of Bath, UK. Her research areas include machine learning, artificial intelligence, network science, and bounded rationality. She received her Ph.D. in Computer Science from the University of Massachusetts Amherst in 2008. Before joining the University of Bath, she was a Research Scientist at the Center for Adaptive Behavior and Cognition at the Max Planck Institute for Human Development in Berlin, Germany. Her current research interests include the rationality of decision heuristics and the role they can play in autonomous learning and development.

Talk 1	Jan 15, 2020: 11:30-13:00	Models of Bounded Rationality
Talk 2	Jan 17, 2020: 11:30-12:45	Ecological Rationality of Simple Decision Heuristics

SANJAY KALLAPUR

Sanjay Kallapur is a Professor of Accounting at the Indian School of Business (ISB), Hyderabad. He was a tenured Associate Professor at the Krannert School of Management, Purdue University, prior to joining ISB. He conducts empirical research in financial and managerial accounting, auditing, and corporate governance; and recently on the economics of the auditing profession. He has published in top accounting and finance journals such as The Accounting Review, Contemporary Accounting Research, Journal of Accounting and Economics, and Journal of Accounting Research, and many more. From 2008 to 2011, he was the Editor of The Accounting Review. Prof. Kallapur obtained B. Com and MBA degrees from the University of Mumbai, and a Ph.D. in Business Economics from Harvard University.

Dessert Talk – Jan 15, 2020: 20:00 – 21:00:

Intuitive Statistician

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KONSTANTINOS KATSIKOPOULOS

Dr. Konstantinos Katsikopoulos is currently an Associate Professor at the University of Southampton. Previously, Konstantinos was a visiting assistant professor at MIT and deputy director at the Max Planck Institute for Human Development. He works on integrating standard decision theory with the simple rules of thumb people actually use. He has engaged with government and businesses on problems, characterized by complexity and uncertainty, in economics, management, and health. Konstantinos's work has been funded by organizations such as the German Science Foundation and the European Network for Excellence, published in journals such as Psychological Review and the European Journal of Operational Research, and covered by newspapers and magazines such as the Tageszeitung and Science News. He serves on the editorial board of the journal Judgment and Decision Making.

Talk 1	Jan 16, 2020: 11:00-12:30	Classification in the Wild
Talk 2	Jan 19, 2020: 9:30-11:00	The Art and Science of Transparent Decision Making

TT NIRANJAN

Prof. T T Niranjan is Associate Professor at IIT Bombay. His core research interests lie in operations management decision-making. His research appears in premier journals such as Decision Sciences, Journal of Operations Management, and Journal of Supply Chain Management. He serves on the editorial review boards of Journal of Operations Management and Journal of Business Logistics and has received Outstanding Reviewer Award from Decision Sciences. His research has been nominated for the Chan Hahn Best Paper Award, Academy of Management Annual Meeting, Chicago and won a Best Paper Award at Decision Sciences Institute Annual Meeting, Washington, D.C. Outside work, he is a passionate rock climber who has also run ultra-marathons in the Alps.

Talk 1 - Jan 16, 2020: 12:30-13:30:

Crying Wolf and a Knowing Wink: Deliberate Bilateral Information Distortion in Supply Chains

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MADHU VEERARAGHAVAN

Professor Veeraraghavan has published over 50 papers in international journals. His papers have appeared in The Accounting Review, Journal of Financial and Quantitative Analysis, Contemporary Accounting Research, Journal of Banking and Finance, Auditing: A Journal of Practice and Theory, Journal of Macroeconomics, Journal of Empirical Finance, Pacific Basin Finance Journal etc. He has presented his work in top accounting and finance conferences. He was the recipient of the Vice-Chancellor's Gold Medal (Monash University) for Teaching Excellence. His paper titled "Executive Equity Risk-Taking Incentive and Audit Service Pricing was awarded the 2013 MIT Sloan Asia Conference in Accounting Best Paper Award.

Workshop - Jan 16, 2020: 16:00-17:00:
Academic Writing

JAN K WOIKE

Jan K. Woike is a Research Scientist at the Center for Adaptive Rationality (ARC) at the Max Planck Institute of Human Development (Center for Adaptive Rationality). He studied psychology, philosophy, languages and drama at Bochum University (Germany) and Harvard. After his dissertation in psychology on fast-and-frugal trees and evolutionary computation (Bochum University), he did post-doctoral research at the Department of Organizational Behavior at the University of Lausanne and the Department of Psychology at the University of Basel. His research topics are situated between psychology, philosophy, economics and computer science. He has worked on human inference heuristics, behavioral ethics and social norms, financial investments, social learning, research ethics and practices of online research, privacy and personal identity. In his studies, he utilizes and sometimes combines computer simulations, laboratory and online experiments.

Talk 1	Jan 17, 2020: 9:30-11:00	Approaching Simple Heuristics with Computer Simulations
Workshop	Jan 17, 2020: 14:00-15:30	Classification Challenge 2020

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KAVITHA RANGANATHAN

Kavitha Ranganathan is Associate Professor in the area of Finance and Strategy, at the T A Pai Management Institute (TAPMI), Manipal. Her research interests are in the areas of behavioral decision-making, with focus on risky decisions by individuals and professionals (expert decision-making). Her work also extends to behavioral corporate finance with focus on pricing in mergers and acquisitions, corporate governance practices in the context of family firms, and recently, on the psychological underpinnings of decisions from experience to improve our understanding for risk communication. Kavitha is also the recipient of the Max Planck India Mobility Grant. Kavitha also organises the Winter School on Bounded Rationality in collaboration with the Max Planck institute for Human Development, Berlin since 2017. Before joining TAPMI, she worked at the National Institute of Securities Market, and been part of the research team for the Financial Sector Legislative Reforms Commission (FSLRC), commissioned by Government of India.

Talk 1 - Jan 16, 2020: 9:30-10:45:

Heuristics for Financial Decision-Making

HERSH SHEFRIN

Hersh Shefrin holds the Mario Belotti Chair in the Department of Finance at Santa Clara University's Leavey School of Business. Professor Shefrin is a pioneer of behavioural finance. He has published widely in the area and writes for both academics and practitioners. Professor Shefrin regularly teaches behavioural finance to both undergraduates and graduates. He often speaks on the subject to portfolio managers, security analysts, and financial planners both in the U.S. and abroad. In 2001 CFO Magazine listed Professor Shefrin among the "Academic Stars of Finance." A 2003 article appearing in The American Economic Review, by Pierre-Andre Chiappori and Steven Levitt, included Professor Shefrin among the top 15 theorists to have influenced empirical work in microeconomics. Professor Shefrin's latest book, Behavioral Risk Management, was published in December 2015. In addition, he is frequently interviewed by the media on financial matters, writes occasional blogs for Forbes and the Huffington Post, and can be followed on Twitter at @HershShefrin

Talk 1 - Jan 18, 2020: 9:30-11:00:

Climate Change and Severe Bounded Rationality

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DIRK U WULFF

Dirk is a research scientist at the University of Basel and an adjunct research at the MPI for Human Development. His research is broadly concerned with the cognitive processes and representations involved in decision making and semantic memory.His recent work focuses on the psychological and statistical underpinnings of decisions from experience to improve our understanding of real-life decision making and derive implications for policy.

Talk 1	Jan 18, 2020: 11:30-12:45	The Description-Experience Gap Workshop
Workshop	Jan 18, 2020: 16:00-17:30	Harnessing Simulated Experience

SUMITAVA MUKHERJEE

Sumitava Mukherjee is an Assistant Professor at Department of Humanities and Social Sciences at IIT Delhi who studies cognitive aspects of human preferences, judgment and decision making. Previously he has examined the attentional and affective mechanisms that underlie a range of decisions like multi-attribute choices, prosocial donations and price evaluation. His current research is focused on the behavioural economic foundations of experiences with an interest in the human perspective to topics in science and technology that impact our lives. His academic background is in cognitive science and computer engineering. His work has been published in multiple journals that include Judgment and Decision Making, PNAS, Journal of Consumer Marketing, Frontiers in Psychology and Cognitive Processing. Dr. Mukherjee was awarded the Emerging Psychologist award in 2014 and declared awardee of the Young Psychologist award 2020 by NAOP India.

Talk 1 - Jan 18, 2020: 14:00-15:30:

Measuring Prospective Experiences About Gains and Losses

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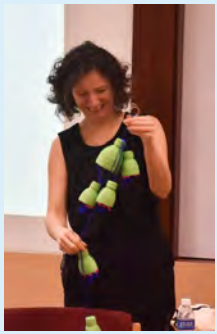

TAPMI-MAX PLANCK-SOTON WINTER SCHOOL ON BOUNDED RATIONALITY 2019

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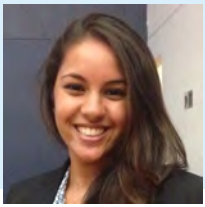
Aarushi Shah

Masters Student,
Indian Institute of Technology, Gandhinagar



Aarushi is an MSc Cognitive Science graduate of the Indian Institute of Technology, Gandhinagar. She is passionate about applying Cognitive Science to the real world. During her Master's degree, she worked at the Technical University of Dresden to investigate how warning signs on roads help drivers respond in potentially hazardous situations. She has a deep interest in understanding the nuances of decision-making, especially in applied settings. Currently, she is working with the Government of Maharashtra on a project that encourages pro-environmental behaviour in primary schools. Beyond her work, you will probably find her burying nose in a book, or daydreaming about pizza.

Follow the Signs: A Cognitive Effectiveness Evaluation of Road Safety Signs

Aarushi Shah

Road-related injuries remain the 8th largest cause of death globally(World Health Organization, 2018). Road warning signs carry critical safety information to the driver, in a system that has been carefully implemented worldwide. Our main research question is concerned with evaluating the effectiveness of existing road signs. We define effectiveness as the ability of the sign to adequately warn the driver of a potentially hazardous event (Martens,2000). We hypothesize that the presence of a sign would cause the participant to react faster to an unexpected incident, as compared to when the sign was absent. We have devised a simulation-based experimentalparadigm, using existing German road signs, to test whether the presence of road signs increased a driver's alertness to a sudden, unexpected event. We have investigated this using two versions of the experiment, each investigating a unique set of 5 road warning signs. Using a between-subjects design, the presence or absence of the signs was manipulated per trial, reaction time taken as the independent variable. Our findings suggest that therewas no overall effect of the sign, i.e. the presence or absence of a road warning sign did not make a significant difference in the behavioral responses of the participants to hazardous events. However, there was an interaction effect between the version of the experiment and the effect of the sign. Thus, one version of our experiment could capture the effect of warning signs whereas the other version was unable to. With this partial support for our hypothesis, further research will be focused on investigating the reasons for the dissimilarities obtained in version 1 and version 2 of the experiment, fine-tuning the paradigm that we have developed, to more number of warning signs, testing their efficacy.

Aditya K S
Scientist, ICAR- Indian Agricultural Research Institute, New Delhi

Aditya K S is a Scientist at ICAR- Indian Agricultural Research Institute, New Delhi. He is a graduate from the University of Agricultural Sciences, Bangalore and also holds a Master degree in Agricultural Economics from the same University. He is a diehard cricket fan and an audiophile who loves his music gears. He also writes occasionally on various topics in his blog spot adityarao.wordpress.com. His current research interests include the impact of informal social networks on crop insurance adoption and the impact of solarizing irrigation pumps on groundwater exploitation. At Indian Agricultural Research Institute, he also teaches courses on Micro-Economics, Green Economics, and Natural Resource Economics for masters and Ph.D. students. You can reach him at adityaag68@gmail.com or adityaks@iari.res.in.

Incentive Structures for Correcting Market Failures In Groundwater Usage: A Behavioral Perspective on Solarizing Irrigation Pumps in India

Aditya K S

Overexploitation of groundwater for irrigation in India has resulted in an increase in the depth of water table in many districts. The overexploitation is attributed to twin factors of market failure and policy failure. As a policy initiative, few states have come up with a plan to enable farmers to sell the surplus power generated from the solar panels to incentivizes farmers to save water. It incentivizes farmers to save water, as the opportunity cost of extracting one more unit of water will be equal to the returns foregone by using solar power instead of selling the energy to power corporations. However, the effectiveness of such a policy in minimizing groundwater extraction is uncertain. A farmer will respond to the incentive structure only if the returns gained by saving electricity on irrigating his crop one more time is greater than the expected increment in returns from irrigating the crop. The expected returns from the crop is uncertain as with the information on the exact water need of the crop. When the problem is complex and ill-defined, assuming normative preferences in decision making based on Bayesian rationality assumption may not hold. Rather, the problem needs to be understood from the perspective of bounded rationality, and whether the farmer decides to go for additional irrigation or not is based on the cues and continuous adaption based on the feedbacks, until he reaches the satisficing level. Understanding the farmer's decision making as a response to incentive structures are crucial in providing policy feedback. Such policy interventions within the groundwaterenergy nexus offer some interesting research questions, which haven't been explored before. In this line, the present work aims to answer the following questions: (1) What is the role of the social network of farmers in the adoption of solar irrigation pumps? (2) How does a farmer decide between selling the electricity and providing additional irrigation to the crop? (3) How do the informal groundwater markets respond to incentive structure?

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Ajmala Ashraf

Doctoral Student, Indian Institute of Technology, Bombay

Ajmala Ashraf is a doctoral student in psychology at the Department of Humanities and Social Sciences, IIT Bombay. Her research interests are in social cognitive processes with a focus on social class and decision making. She has previously worked at the Central University of Karnataka, where she has taught courses in social psychology and cognitive processes, among others. She has completed her master's degree in health psychology from the University of Hyderabad. Ajmala is a very empathetic person and seeks to understand human action, cognition, and emotion in their broader socio-cultural context.

Are Nudges Equitable?

Ajmala Ashraf

Human decisions are often influenced by how the choices are presented, and policymakers use nudges to push people towards choices that are assumed to align with their long term goals. The existing literature provides ample evidence of how nudges lead to better choices in terms of fuel efficiency, health, and retirement saving. However, a question that remains largely unexplored is whether all groups of people benefit optimally from nudges, given that social class contexts give rise to specific patterns of thinking, affect, and action tendencies (Kraus, Piff, Mendoza-Denton, Rheinschmidt, & Keltner 2012). In this review, I examine the effects of educative nudges and defaults on individuals belonging to different social classes. The review finds that educative nudges, such as providing calorie information on restaurant menus, are effective only when people are able to comprehend the information provided, and individuals from the upper classes benefit the most from these. These findings pose a serious concern, as successfully nudging the advantaged while leaving behind the disadvantaged can further the existing inequalities. Proponents of nudge often highlight the power of the default and advocate auto-enrolment into saving plans and green energy schemes, assuming that people will opt out of self-harming defaults. However, this assumption ignores the difference in cognitive tendencies of the upper and lower classes. Experiences of relative resource scarcity and environmental constraints dispose individuals from lower classes to a communal orientation and a greater tendency to continue with the default. Consequently, the poor who earn the least tend to stick with defaults that cost them upfront much more they can afford. I discuss the policy implications of these findings with a focus on financial decision-making of the Indian lower classes.

Anjali
Doctoral Student, Indian Institute of Technology, Kanpur

Anjali is a second-year graduate student in the Cognitive Science program of the Indian Institute of Technology, Kanpur (India). She is currently working with Dr. Nisheeth Srivastava in a project which aims to characterize the test-retest reliability of the risky economic decisions. She completed her B.Tech in Information Technology from YMCAIE, Faridabad in 2008 after which she worked in the IT industry for over a decade.

Human behavior has always intrigued her interest and this excitement drove her back to academia. She is an amateur learner and earned herself a Master's degree in Psychology before finally enrolling in the graduate program. Cognitive science in its current flavour which seeks to amalgamate different disciplines suits her appetite and she hopes to contribute to this exploration.

Limits on Predictability of Risky Choice Behavior

Anjali and Nisheeth Srivastava

Recent trends emphasize heavily on the predictability of the human decision making under risk with high accuracy. This has become the benchmark for the evaluation of a good model. Very high correlations have been found between the empirical response choice rate and predictions made by the computational models. This paper strives to question this criterion of evaluation and the limitations of such models.

In this study, instead of human-model correlations, we computed the human-human correlations by making the humans act as their own model. A set of risky choice problems based on the certainty equivalence protocol with Decision from Experience paradigm were presented to the participant twice at a gap of at least a week to discount learning. The second presentation of the problem acts as the prediction of choice behavior by the person model, while the first presentation served as the observed choice.

The correlations between the observed and predicted response choices and sampling duration were measured for this human model. Risky choice rate(r-rate) is the average number of risky response choices for a given problem in a decision making task with certainty equivalence paradigm. Sampling duration is the number of samples that a participant draws before makingan actual choice in the Decision from Experience paradigm.

We found only moderate correlations between repeated choice elicitations on the exact sameproblems for sampling duration and slightly lesser correlations on r-rate. The correlationbetween those human-human observations with sampling duration less than or equal to 2,drops slightly further. In addition, the baseline model presented in Technion competition wasdecently aligned with the variability in human choices. This makes it a good enough model.However, any measure to boost this correlation without considering human variability mightsuggest overfitting.

In sum, there are fundamental limits on how closely cognitive realistic models of choicebehavior should fit human choice data. Excessively high correlations and low errors claimedby contemporary choice models may indicate subtle overfitting to the validation set in light ofour findings.

BOUNDED RATIONALITY
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Anmol Rathore

Doctoral Student (Research Fellow), National Institute of Public Finance and Policy, New Delhi

Anmol Rathore is a Research Fellow with the National Institute of Public Finance and Policy, New Delhi, where she is a part of the Macro/Finance Policy Group. She has worked in areas related to financial regulations, investment, grievance redressal, etc. She has previously worked as a policy research intern at the office of Mr. Gajendra Singh Shekhawat, Union Cabinet Minister, Ministry of Jal Shakti. As a part of the core committee, she has led five teams that researched on socio-economic problems like secondary education, undernutrition in women and children, among others, and gave policy recommendations on the same. Anmol graduated from St. Xavier's College, Jaipur, and holds a Master's degree in Regulatory Governance from the Tata Institute of Social Sciences, Mumbai.

Behavioral Science Perspective to Energy Efficiency Regulations

Anmol Rathore

Energy consumption, investment in energy-efficient technology, and pro-environment action involve consumer decision making. This calls for increased interest in designing behaviourally informed policy to promote uptake of energy-efficient alternatives. The aim of the study is to identify the behavioral barriers faced by consumers during the implementation of end-use energy-efficient measures. With respect to the above-mentioned context, the behavior of farmers at the advent of the Agriculture demand-side Management (AgDSM), i.e., to change existing energy inefficient pump set with energy-efficient pump set, promoted by Energy Efficiency Services Limited (EESL), Government of India, is assessed. A case-study of replacing existing pump sets by energy-efficient pumps (conducted in 2017-2018) in Chomu village, Jaipur district, Rajasthan, is identified, where the pilot project of substituting 28 old pump sets with EESL star rated energy efficient Pumps was met with resistance by farmers of

the village. To this end, the central research question of the study is as follows: Why the energy consumers are resistant towards the implementation of (AgDSM), from a behavioural science perspective. To answer the question, the researcher reviews secondary data existing in the literature and collected primary data research through semi-structured interviews, direct observation, and focus group discussions with the farmers and officials at EESL, Jaipur. The researcher has used qualitative content analysis to find out the barriers faced by farmers. The study is exploratory in nature and the philosophical worldview which appropriately describes the research is Social Constructivism. The response received in due course of research indicates that cognitive bias (bounded rationality, loss aversion bias, herd behavior, among others) has a role to play in the decision making of the farmer. On the basis of this, it's recommended that the energy-efficient policy should also take in-lieu the behavior of farmers and associated biases for easier and wider penetration of Energy efficient program in a village.

Arjun Mitra
Doctoral Student, Indian Institute of Technology, Kanpur

Arjun Mitra is currently a doctoral student in cognitive science in IIT Kanpur. He is interested in theorizing an ecologically-valid rationale for the cognitive mechanisms of people belonging to lower socio-economic strata.

Planning Failures Induced by Budgetary Overruns Promote Intertemporal Impulsivity

Arjun Mitra

Recent research has identified intertemporal impulsivity as a critical cognitive variable for explaining the autocatalytic nature of socioeconomic status. But how exactly this relationship transpires has not been clearly identified. We designed a novel experimental study in which participants played a farming game and made choices about the type and extent of crop they want to plant. Participants made choices between crops of faster yield-high risk-more profit (apple), faster yield-low risk-less profit (rice), and slower yield-low risk-high profit (teak) options. We were interested in the probability of their choice of crops when they faced an in-game environmental incongruity designed in the form of budgetary overrun. During the gameplay, participants faced randomized resource cost debits associated with their allocated budget. Budgetary overrun was defined by cases where resource cost debts were greater than the allocated budget resulting in greater crop loss. The results imply that decision-makers' time preference became more present-focused when they experienced budgetary overruns in the task. Moreover, participants' perceived control seems to be a function of the tempestuous events they face. On the basis of these results, we argue that steep intertemporal discounting in low SES individuals may arise as a rational metacognitive adaptation (here, achieving more control over random outcomes) to persistently experiencing planning and control failures in long-term plans.

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Aryan Yazdanpanah

Research Assistant, University of Tehran, Iran

Aryan Yazdanpanah received his Master's in Electrical Engineering from the University of Tehran (UT), Iran, in 2017. He has conducted research in neuroeconomics and vision neuroscience during his Masters and Bachelors programs. His interests are neuroeconomics, computational social science, and computational psychiatry. In his research, he uses behavioral, neuroimaging, and large-scale observational methods to ask questions about the motivational and brain processes of human decision making.

Aryan is currently a research assistant at the Cognitive Systems Lab at UT, where he is employing insights from behavioral economics and cognitive science in order to improve some KPIs of an online cab company (Tap30). He has been previously a project controls manager and a cognitive researcher in a Nudge unit in Iran, aiming to reduce electrical consumption. He is also working with psychiatrists at Iran University of Medical Sciences on morality and risky decision making.

Do you share your personally useless information if others may benefit from it?

Aryan Yazdanpanah, Abdol-Hossein Vahabie and Majid Nili Ahmad Abadi

Economic information plays an integral part in our modern world. Information is personally useless if its beholder cannot benefit from it unless she shares it with those who can exploit that information to increase their outcome. We study sharing such information in a non-strategic and non-competitive setting, where selfish and cooperative motives align together. Although sharing information is cost-free, the experimental results and computational modeling reveal that almost half of the subjects have a negative tendency toward sharing their personally useless information. In addition, sharing personally useless information is not correlated with subjects' personality traits, their sensitivity to fairness of opportunities, and their level of cooperation. However, the more subjects believe others cooperate in the Public Goods Game, the more they share information for free to others. Surprisingly, when subjects are rewarded and get access to the information directly by their action, they share less information; they prefer to give partial information more than guaranteeing their confederates' success even at the cost of less profit for themselves and the difference between sharing in rewarded and non-rewarded conditions is negatively correlated with subject's openness. Sharing information is not spontaneous for all, subjects in the middle of sharing spectrum are slow in both sharing and not-sharing decisions while not-sharing is fast for low-sharing subjects and sharing for high-sharing ones. Furthermore, the computational modeling revealed that subjects' decisions and their reaction times are best described by the model of self and other-regarding behavior rather than models of fairness. The subjects' sensitivity to others' payoffs in the model is correlated with their belief about others' cooperation in PGG. Thus, under the assumption of value-based decision making, the results show that self and other-regarding utility functions can make subjects irrational in terms of payoff-maximizing.

Ashish Vazirani
Doctoral Student, Indian Institute of Technology, Kharagpur

Ashish Vazirani is a Ph.D. scholar in the area of financial decision making at IIT Kharagpur. He is a Junior Research Fellow (JRF) and has an MBA from NIT-Trichy. Before joining the program, he was working with top MNCs and SMEs for a total of 8 years in the domain of Business Strategy and Consulting. He is also part of astartup in the EdTech domain. His research focuses on Venture Capital(VC) decision making in early-stage startups, where products are often new and information spread is asymmetric. He is also a member of the American Finance Association and Society of Financial Studies. In addition to academics, he likes to play Basketball and Table-Tennis.

VC's Decision Making, a Web of Factors and Their Relations

Ashish Vazirani

Venture capitalists gain only in 2/10 investments, and such skewed results are linked with the special case of less information and untested products in startup funding. Further, this gets enhanced in early-stage investments. Due to such lack and unstable information flow, investment decisions in startups are subjective and are influenced by absolute factors like liquidity, gender, education and fund size as well as relative factors like the experience of the team, learning from previous investments, and observation in the market. Humans make suboptimal economic decisions due to limitations in processing the information and variation in preference of such information. Not just lack of information, but even an abundance of information creates noise, confuses the individuals and pushesthem to make irrational decisions. Though VCs' are experts with a proper team where one bias may balance out other biased opinions, but we continue to see a higher number of bad investments with very few investments giving substantial returns. This creates a need to understand the process of VCs' decision making, what processes do they follow and what are the signals that influence their decisions? These need proper analysis. Can the presence of one signal overshadow other negative signals? If yes, what factors can compensate or are compensable? This comprehensive understanding of the tradeoff of factors and the signals can help in developing a framework of decision making in the special case of early-stage venture investments.

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Chenxu Hao

Doctoral Student,
University of Michigan, United States

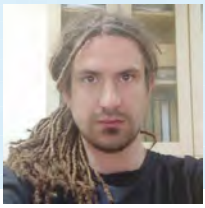
As a graduate student in cognitive psychology, Chenxu Ho's current work investigates moral cognition in the framework of bounded rationality with theoretical computational models and behavioural experiments. The theory focuses on the connections between moral values and moral decisions and how humans use moral strategies that are adaptive to the ecology of the environment and the decision-maker. Her work also aims to bridge the gap between the theoretical framework and specific empirical effect by showing that context effects occur in the domain of ethical decision making. The results of such effects may seem irrational but are inevitable given noisy observations of the environment and the cognitive limitations. Finally, her future work will address how individuals' moral values are updated dynamically over time and provide insights into how a group of moral agents functions as a dynamic system.

Boundedly Rational Ethical Choice

Chenxu Hao and Richard Lewis

Contextual preference reversals (CPRs) occur when choices between two multi-attribute options change as a function of unchosen decoys and are understood to challenge characterizations of human decision making grounded in expected utility maximization. Preference reversals have been observed in many decision domains, including buying products, choosing a gamble to play, and judging the area of rectangles (Huber et al., 1982; Wedell, 1991; Trueblood et al., 2013). Howes et al. (2016) offer a theoretical model that shows CPRs are inevitable when people maximize expected values while taking noisy observations, suggesting that the types of systematic preference reversals observed in human choice are a signature of boundedly rational expected utility maximization. In this project, we study preference reversals in ethical decision making, by combining features of ethical decision tasks with the structure of classic CPR tasks. We introduced ethical features by modifying the tasks in Wedell (1991) to become decision tasks that affect the lives of others. Fifty-one participants completed a survey with ethical dilemmas where they tradeoff between the number of lives to rescue in a hurricane and the probability of successful rescue. We hope the scenarios of rescue operations could provide insights into mechanisms underlying potential dilemmas in medical and public policy decision making. We analyzed data with a Bayesian logistic regression model and found a clear preference reversal effect when the decoy is dominated by the target in only one attribute. Our results indicate that the mechanism underlying moral decision making is not separated from other types of decisions.

Our findings naturally raise questions about the rationality of ethical choice, but our theoretical explanation, based on the theory by Howes et al. (2016), is that ethical decision making is boundedly rational, given the influences of noisy observations of the environment and the cognitive limitations of the decision-maker.



Dave E W Mallpress
Post-Doctoral Research Fellow,
The Institute of Psychology, Chinese
Academy of Sciences, China

Dave E W Mallpress Originally studying bachelor's in Biological Sciences, Dave E W Malpressdid his Ph.D. in Behavioural Ecology at the University of Bristol, modelling general principles of animal (and human) behaviour from the perspectives of function and optimality. The key focus of his work has since been on risk, valuing outcomes and exploring ideas in motivation. He did my first post-doc in Consumer Behaviour at the University of Basel and is now working under the leadership of Professor Shenghua Luan, researching Decision Psychology at the Chinese Academy of Sciences in Beijing. His work is primarily theoretical, searching for general principles in decision making and behaviour. He has also spent time trying to develop genetic algorithms to evolve novel heuristic mechanisms for intractable decision problems.

Performance of Some Simple Heuristics (and search for Novel Rules) for Some Complex Problems in Spatial Discounting

Dave E W Mallpress

Choosing between rewards that are differently spaced is a markedly more complex decision than selecting between rewards that have different delays. This is due to some of the different properties of space, and there are a number of additional factors that should be considered (Mallpress, under review). When multiple reward objects are collected, the decision problem is intractable, being many times more complex than a Travelling Salesman Problem of a similar size. To solve this object collection problem, we expect both humans (and non-human animals) to use simpler shortcuts to these brute-force calculations. We explored this problem by applying a variety of candidate solutions to a number of decision problems involving multiple rewards distributed across space. These included novel heuristics that were developed through a genetic programming approach where the candidate was evolved through multiple simulations involving selection, as well as some classic heuristics such as 'take-the-nearest'. These were compared with simple optimal valuation solutions for single objects and optimal valuation solutions for two-object paths, under a variety of 3+ object problems. Since the actual currency maximising pathways are not solvable analytically, the optimal route for our specific problems is an open question and there was the possibility of stumbling across and setting new benchmarks for each of the different classes of these problems. Although these heuristics seldom performed best under a single metric of performance, there were a number of heuristics that had a relatively high performance under a variety of currencies and decision scenarios (when modifying the range of variable settings), showing that they are quite robust. Although this work is in an early stage, we anticipate having a number of additional results to present within the next two months.

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Dmitry Gladyrev

Doctoral Student, Ural Federal University, Russia

Dmitry Gladyrev is a researcher, lecturer and Ph.D. student in the Graduate School of Economics and Management, Ural Federal University. The university is situated in Ekaterinburg, the fourth-largest Russian city located on the boundary between Asia and Europe. His bachelor's degree in Mathematics (2012) and master's degree in Economics (2014) were also received in Ural Federal University, but he also had a notable exchange experience and short-term courses in Prague, where he met experimental and behavioral economics for the first time. He worked a few years as a web-programmer and project manager but then decided to move to the academic sphere. Now he is about to defend his Ph.D. thesis about experimental financial markets. His research interests also include elections data analysis, scientometrics and behavioral public policy. His primary hobbies are travelling, languages, urban studiesand history.

Experience and Previous Success In Experimental Asset Markets

Dmitry Gladyrev

Experimental asset market literature provides different factors explaining price bubbles. One of the most robust findings is the experience effect: markets are efficient, that is, they generate prices close to fundamentals, long as at least some traders are familiar with the environment. In this research, we show that experience can be very different, and it is important to control for previous success of experienced traders. We found a non-linear dependence between market efficiency and previous success of experienced traders in mixed-experience markets. Markets with previous bottom earners are least efficient and can be comparable with inexperienced markets. The research also provides review and criticism of existing measures of price bubbles in experimental asset markets. We proposed new measures as relative overvaluation (RO) and relative underestimation (RU). All results are calculated using some old measures, as well as using new ones.

Our findings naturally raise questions about the rationality of ethical choice, but our theoretical explanation, based on the theory by Howes et al. (2016), is that ethical decision making is boundedly rational, given the influences of noisy observations of the environment and the cognitive limitations of the decision-maker.

Elizabeth Varsha Paul
Doctoral Student, National Institute of Technology, Tiruchirappalli

Elizabeth Varsha Paul is a graduate scholar in the Department of Humanities and Social Sciences at the National Institute of Technology, Tiruchirappalli, a premier institute of national importance. Her areas of interest are Industrial Economics, Gender studies, and Labour Economics. She had secured meritorious ranking during her graduate and postgraduate study. She was awarded the best student during her college studies. She was selected as a presenter in Oxford and Cambridge and Aston universities. She has an experience of 3 years as an academician and trainer and trained more than 400 students from different age groups in different states. She is currently working on essays as her dissertation topic, and the title is "Essays on Automobile, Construction and Steel Industry in India."

The Role of Bounded Rationality in the Automobile Sector

Elizabeth Varsha Paul

The Indian auto industry is one of the largest in the world and contributes about 7% of GDP. It produces a total of 17.5 million vehicles per year.

Since, environmental protection is now an integral part of public policies at local, national and global levels. The government of India imposed Bharat Stage emission norms VI in replacement of Bharat stage emission standard IV norms.

According to consumers, Bharat Stage VI-compliant vehicles are costly because manufacturers try to move the hidden opportunity cost or social cost to them. Besides, this additional cost with highly expensive compliant fuel makes it less unattractive for consumers to buy. They are unaware of the advantages due to BSVI, such as free quality air, cleaner fuels, and cleaner environment.

Instead, they prefer cars at low cost and with a high operating cost. In the minds of consumers, BS-VI vehicles have better engines, better exhaust and are considered a more top system. So, according to them, BSIV cars are the best because it is economical, safe, and comfortable.

These confusions, apprehensions, and myths make them opt for cars with fewer benefits in the future. They do not know how to make a rational choice, and they make sub-optimal decisions. In short, they only want to enjoy short term benefits provided by BSIV, whereas the long term benefits are unseen by the consumers.

Hence, does bounded rationality happen in consumers due to limited information, inertia, and myopia?

These slow and indecisive decision makings affect the auto industry as consumers may postpone the purchasing decision. This imbalance leads to changes in the equilibrium. In the short run, because of bounded rationality and inertia to buy new cars, equilibrium will be affected. But in the long run, it may restore back to its equilibrium.

BOUNDED RATIONALITY
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Emy O. Thomas

Undergraduate Student,
St. Stephens College, Delhi

Driven and opinionated individual, Emy is a passionate student, debater, writer, and researcher who feverishly consumes fiction and non-fiction work alike. Having gained considerable exposure over a diverse range of internships, including at an IIM and LSE, her specific interests lie in the politics, history, and economics of India and the world. Further, she has written research pieces on the aforementioned subjects.

Vastly experienced behind the debating dais, she has occupied positions that have tested her organizational and leadership acumen. She also enjoys writing fiction and prose and travelling to varied destinations.

Determined to pursue policymaking in the future, she aims to study Public Administration, decision making and policy research at the Graduate Level. Additionally, her penchant for fictional prose leads her to dream of becoming a published author in the future, with little concern for the confines of literary classification. Academic, competitive and professional pursuits drive her equally. She is currently pursuing maths at St Stephens's college.

Heuristics of Indian Elections 2019

Emy O. Thomas

Explaining the elections through different parameters, whether it be social (including alliance politics) or economic or marketing techniques, and emphasizing the dominance of sequential heuristics in comparison to weighted averages in voters' choices.

India is doing badly macro-economically, and the required growth is not turning into the rapid GDP growth the country hopes for. Unemployment is at a four-decade high. The Center for Monitoring Indian Economy (CMIE), found that 11 million jobs were lost in 2018 alone, with 83 percent of job losses occurring in rural areas. These numbers do not correlate with BJP's good governance model. Yet they went on to win the elections. We have seen security issues competing with and outdoing a fundamental issue like employment. But is this the only cause?

But what do voters look at when they go to vote: Was it a single issue that propelled them to vote for Modi or multiple issues? If it was a single agenda, which agenda propelled them to vote for Modi?

The dominant narratives that were brought out this election include selling of Modi government model as good governance, security concerns, economic conditions prevalent in India, and social choices (caste and class). Opinions flow that the average Indian voter kept all these issues in his mind and voted for Modi accordingly.

That brings us to the point of multiple issues: If voting patterns were determined by weighted averages, what was the allocation of voters to different issues?This is discussed in the paper.

The failure of alliance-based politics has also been explained in this paper.

We also see the rise of media and campaign fundings to be of a source of interest in this election. The image of Modi through social media is extremely important due to his extremelylow contact, as Prime Minister, with traditional news outlets. Barring prepared media coverage,what we see of Modi on social media is his only source of communication. Despite this, Modiappears to be the most approachable Prime Minister the country has ever had.

Gaurav Kumar Singh
Doctoral Student, Indian Institute of Management, Ahmedabad

Gaurav is a doctoral candidate in the Production & Quantitative Methods (PQM) area at the Indian Institute of Management Ahmedabad (IIMA). His thesis examines the issues related to household inflation expectations (IE) such as rationality of IE, the formation of expectation, and disagreement in IE, in an overall context of India's Monetary Policy. Prior to IIMA, Gaurav pursued a Master's degree at the Indian Institute Of Science (IISc) after securing AIR 191 in GATE-Computer Science. During his MS research, Gaurav authored an International journal paper. He also has close to three and a half years of corporate stint in Infosys and Credit-Suisse. He was Chess captain during his undergraduate engineering college & also has won many laurels in Chess and Carrom at school & college level. Gaurav captained the IIMA teams for Carrom and Badminton that brought many laurels to the institute. He loves biking, solving puzzles, writing poetry, and reading philosophy.

Disagreement in Household's Beliefs and Media Information

Gaurav Kumar Singh

Disagreement and not consensus are fundamental to humans if one observes the decision outcomes of individuals, and the reason pertains to the notion of\bounded rationality". The proponents of \bounded rationality" argued the triangular boundary of a rational decision approach by its three edges: limitation due to time, limitation due to computation (cognition), and limitation due to information. The three criteria translate to view that a \rational" agent has only limited time, limited capacity and limited information to come up with an informed decision. Taking a specific instance “inflation expectation" as one ofsuch scenarios, this work assesses the household's belief of inflation.

A litmus test of expectation surveys is to assess the Rational expectation hypothesis (REH) of economic agents by using a battery of statistical tests. Inmost cases, empirical results lead to the rejection of the REH. The inflation expectations are found to be either inconsistent or biased or both. Also, disagreement is a common phenomenon in the inflation expectations of the householdsin survey data (Mankiw, 2004).Following Lamla (2012), we model the disagreement in the qualitative responsesof household inflation expectations using two sets of variables, one is a proxyfor relevant macroeconomic information and the other proxies for media information. Our empirical analysis suggests that disagreement is persistent. Inother words, the disagreement at time t - 1 has a large influence on the disagreement at time t. Further media (news/web search) information obtained by

using google trend data on the frequency of certain keywords shows that withthe increase in the frequency of certain keywords, survey disagreement seemsto be lessened. Additionally, the inflation regime has a significant effect on disagreement. In low inflation regime disagreement is higher compared to the highinflation regime. This study provides an alternative to account for household's

decision making through additional media information.

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Jingshang Che

Doctoral Student, Jinan University, China

Research Interests: Information Overload; Intertemporal Choice

His research interest is how the massive information environment around us affects choice behavior. Now he is focused on the influence of massive information on intertemporal choice, mainly considered from the perspective of cognitive resources. He will further explore how to adopt the theory of behavioral decision-making to help people make better decisions. His papers have been published in Advances in Psychological Science and Commercial Science Research.

How the number of options and attributes influence choice satisfaction: The role of cognitive cost

Jingshang Che, Aimei Li and Hailong Sun

Individuals often consider attribute information when choosing among alternatives. More attributes increase the perceived usefulness, but it will also increase the cognitive cost of choice. More alternatives make individuals more likely to find the options they like, but too many options will lead individuals to "choice overload". The decisions people make depend on information, but what kinds of information will make us more satisfied in the massive information environment? This study explored the influence of the number of attributes and the number of options on choice satisfaction. Study 1 shows that the cognitive cost of processing attribute information is higher than option. Study 2 shows that subjects search for more options than attributes and have higher process satisfaction. Study 3 found that the interaction of attribute and option affect decision satisfaction and this is mediated by cognitive cost. Overall, the results show that searching for less attribute information makes subjects more satisfied with their decision. The study contributes to the understanding of how attributes and options interact to affect decision satisfaction. Consequently, our conclusions have important practical significance for both merchants and consumers.

Keywords: cognitive cost, choice satisfaction, number of attributes, information search, choice overload

Jyoti Kumari Singh
Doctoral Student, Indian Institute of Management, Indore

Jyoti Singh is pursuing Fellowship Program in Management (FPM) in the strategic management area from IIM Indore and has done MBA and BCA. She has close to six years of experience starting from HDFC Sales Ltd. (Kolkata) as Management Trainee then as Information Officer at Centre for Monitoring Indian Economy (Kolkata). She started her academic career from XLRI School of Business (Jamshedpur) as a Research Associate after that, Assistant Professor at XIMR (Mumbai). Her research interests are firm survival, organizational routine and decision making.

Entrepreneurial Inertia: Is It Loss of Opportunity or Better Judgment?

Jyoti Kumari Singh

This paper is an attempt to examine the consequences of Entrepreneurial Inertia (EI). Severalauthors mention inertia results in delayed action or inaction. These delayed actions may leadto loss of opportunity or help in making the right decisions. Therefore, inertia can either be supportor hindrance in decision making. In an uncertain environment, an entrepreneur is required toact responsibly. S/he should know when to wait or act in an uncertain environment.

The developed propositions are:

Proposition 1: In the initial stage, entrepreneurial inertia is good for making decisions that arecrucial for the organization's future.

Proposition 2: Inertia felt during the process of change would provide more time to anentrepreneur for making better decisions.

Proposition 3: Entrepreneurs behaviour induces inertia which causes delayed action orinaction.

Proposition 4: Collective sense-making of an event can force an entrepreneur to becomeconsensus entrant while some events can disrupt an entrepreneur's inertia and encourageher/him to choose the best possible alternative.

Proposition 5: Uncertain outcomes influences entrepreneurs' decision making resulting ininertia.

Proposition 6: Timing to act is very important, entrepreneurs should actively analyze thesituation properly use past experience and learning from peers to respond to change.

Proposition 7: Entrepreneurs should try to experience a variety of things; instead of sinkinginertia in they should try to break the monotony on regular intervals.Future scholars can turn propositions into testable hypotheses and test for its falsifiability, andmodel developed can be tested for its degree of association between different nodes.

Keywords: entrepreneurial inertia, entrepreneur, inertia

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Lizashree Hazarika

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Lizashree Hazarika is a Doctoral Research Scholar at Centre for Philosophy, School of Social Sciences at Jawaharlal Nehru University. Shehas been awarded her MPhil degree on the dissertation title, "Interrogating Paternalism", from the Centre for Philosophy. She is also a Junior Research Fellow. She has presented a number of papers on various philosophical issues at different revered institutions such as Aziz Premji University (APU), Bangalore, ICPR Delhi and Lucknow, Lucknow University, Delhi University, and Amity University, Noida. Among the myriad philosophical fields that interest her are Ethics, Moral Philosophy, Political Philosophy, Analytic Philosophy, Existentialism. Some of her articles and chapters have been published in different edited books and journals. Among many papers, some are, "John Searle's Idea of Irreducibility," "Is it Okay to behave paternalistically?" "Paternalistic tools: A concern or compulsive threat" and, "Social media and Women Empowerment". Now, Forher Ph.D. degree, her proposal is "Investigating Paternalism in Health and Education: An Ethical Inquiry" She is interested in critically examining the paternalistic motivations that are prevalent in these contexts.

Libertarian Paternalism: A Critical Interrogation of Human Decision-Making Process

Lizashree Hazarika

Human beings always remain at a distance from being the so-called perfect beings. Nevertheless, humans are not perfect because "we are perfecting beings". Some thinkers like Hart, Goodin, Dworkin have noted that the presence of transitory desires compels the agent to deviate from their true interests. It is only because of the deviation from rationality that leads people to prioritize goods that would not lead to its perfect ends. For the Behavioural Economists, such deviation from rationality is due to some flaws in the decision-making procedure itself. People do not always choose rationally but act as rational only under certain boundaries. These boundaries include the presence of complete information, capable of comprehending all that is presented, given the amount of time to come to a reasonable decision. They would make only satisfactory and sufficient decision but not something ideal so, Daniel Kahneman and Amos Tversky added that there are some heuristics that allow people to make satisfactory and sufficient decisions. Thaler and Sunstein expanded their ideas by referring that psychological factors can negatively affect decision-making. That is why; they said that the state should organize the environment in such a manner that people would choose the best option, which is easily available without taking away the freedom of choice from the agent. LP suggested that paternalism is justified on the ground that it helps in leading people towards optimal and ideal preferences. Taking the predictable cognitive biases, the other can influence people's choices or the environment of choice. But, the question arises, can the other know the intimate interests of people? Is it justifiable to influence an agent regarding his/her intimate choices? This paper aims at explaining how decisions are made and what influences our decisions? Is it justifiable to architect bad choices and replace good choices without any knowledge from an agent?

Lunzheng Li
Doctoral Student, University of Southampton, United Kingdom

Lunzheng Li is a Ph.D. candidate in economics at the University of Southampton, UK. His primary research interest lies in the fields of behavioural and experimental economics, and he is particularly interested in topics related to bounded rationality. His work is heavily multidisciplinary, and he has papers on salience theory and anchoring effect which are inspired by cognition and psychometric research. He is now working on a project related to herding behaviour.

How Economically Important is Anchoring? A Research Synthesis of WTP/WTA Studies

Lunzheng Li

Anchoring is considered to be one of the most robust psychological phenomena on judgement and decision-making. Early literature shows anchoring is relevant for the elicitation of economic preferences in a strong and robust manner. However, subsequent studies found weaker and less robust effects than early influential studies. We examine the quantitative economic significance of numerical anchoring by performing a systematic synthesis of studies. We include 28 studies and choose the Pearson correlation coefficient between the anchor number and target response (in our case, WTP/WTA) as the primary effect size. Both fixed-effects and random-effects models point to a moderate overall effect, smaller than the effects reported in early studies. Further meta-regression analysis shows that incentivised student subjects in lab experiments are less likely to be influenced, comparing to general population subjects in field experiments without economic incentives. Overall, the effect of anchoring on economic evaluation does not seem to be as strong as previously believed.

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Marina Chrysoula Tzikanoula

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Chrysoula Marina Tzikanoula is a lawyer at Nikolaos Moschos and Associates Law Firm in Athens with emphasis on international financial and business law with previous working experience in law firms in Zurich and in Turin. Ms Tzikanoula passed the bar examination in 2018 and became a member of Thessaloniki Law Bar Association in 2019. She is presently pursuing her B.Sc. in Economics in University College London in collaboration with LSE following long-distance courses. She earned her LL.M in 2016 from King's College London, with a Master Thesis on Public Private Partnerships in the UK and their conceptual faults. She earned her LL.B in 2015 from Aristotle University of Thessaloniki, the same city where she had pursued her legal apprenticeship. Her research interests include International Commercial Law, International Banking Regulation, Contract law, Ecological Rationality, Heuristics etc.

Autonomous Vehicles, Moral Dilemmas and the Law; Using Rules of Thumb to Unearth and Enforce Current Legal Principles and Practice

Marina Chrysoula Tzikanoula

The development of AI in the area of automatic self-driving cars brings to the fore the necessity of guidelines such as Asimov's three rules of robotics. While no one can find fault with principles whose focus is to guarantee the sanctity and safety of human life, but in the grey area of implementation, the questions which need to be addressed and the decision-making process to be engaged remain largely unidentified. In this context, I propose that simple rules of thumbs, such as those implied by the universal Baby On Board sign, are more helpful in contrast to highly complicated calculations on viability percentages between different agents involved in a car accident as seen in science fiction such as the iconic I, Robot. My main thesis is that where automatic self-driving cars are concerned, science needs to utilize the law as a form of moral reasoning capable of framing free will in contexts in which the moral distinction between use and abuse (in which science tends to find way to one size fits all types of solutions) needs to ultimately rest in hands of the agent in question.

Nan Liu
Doctoral Student, Jinan University, China

Ms. Nan Liu is good at interdisciplinary research in the field of psychology andmarketing.Her research focuses on two themes-in the filed of decision making, such as the intertemporal choices and risky choices andhow to adopt decision theory to solve consumer behaviourissues, such as how to use heuristic in consumer decision making and the problem of choice overload. Her papers have been published in Journal of Pacific Rim Psychology (forthcoming) and Foreign Economies and Management.

Following the Wisdom of the Masses: Examining the Functionality of Bandwagon Heuristics in Choice Overload

Nan Liu, Ai-Mei Li and Lei Zhou

The extant literature has showed the adverse consequence of too many choices, such as choice deferrals and the subsequent decrease in satisfaction. However there has been little research on how to mitigate the effects of choice overload. The current research proposes bandwagon heuristics as a remedy to the negative consequences of choice overload and we conducted studies to verify the proposed hypothesis. A pilot study was conducted firstly to replicate the choice overload effect.Then, we primed different heuristic processing with heuristic cues (bandwagon, price-quality, and none cues) to verify the validity of bandwagon heuristic in choice overload (Study 1). Study 2 examined the underlying processes of bandwagon heuristics in choice overload by utilizing eye-tracking technology. The results indicated that individuals in large choice set had less intention to purchase and feel less satisfied compared to those in small choice set (Pilot Study). Individuals primed towards bandwagon heuristic processing reported higher purchase intention and satisfaction in large choice set than those in price-quality heuristic cue condition and non-heuristic cue condition, which demonstrates a reversion in the negative effects of choice overload (Study 1). Results from the eye-tracking analysis showed that in large choice sets, individuals processing information more heuristically. Heuristic cues changed individuals' attention distribution.They processed information quicker, skipped more information and were more reliant on heuristic cues in the presence of bandwagon cues. In conclusion, bandwagon heuristic is fast and frugal which works in choice overload. This research contributes to both choice overload and heuristic processing theory which may provide new insights for future studies, as well as providing practical implications for marketing.

Key words: choice overload, bandwagon heuristic, heuristic cues, heuristic processing, eye-tracking

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Nilotpal Jha

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Nilotpal Jha's background as an engineering graduate working in commercial roles in the commodities sector shaped up his inherent interest in understanding human judgment and decision making. After working for 5 years, he quit his job in August 2019 to start his academic journey as a Ph.D. student at Singapore Management University's LKC Business School in OB/HR department.

Nilotpal has three long terms goals that he wishes to achieve out of his academic journey. The first is to contribute to the re-evaluation of how human behaviour is currently studied. The second is to work towards bridging the institutional level chasm between worlds of academia and practice. And the last is to advance the field of psychological literacy of the common man. His assumptions for these goals may be entirely flawed, in which case this journey is his way to disillusion.

'Sorry I was lost in thoughts!': Impact of mental preoccupation on choice avoidance

Nilotpal Jha

Choice, by granting greater agency to the individual; can lead to improved intrinsic motivation and task performance. It has subsequently been argued that too many choices could lead to decision avoidance and lower satisfaction. Individual differences such as culture and socioeconomic status (SES) also influence preference for more (or less) choice. These studies, however, focus on external features of choice (quality, quantity of options) and static intrinsic (implicit preferences) or extrinsic (SES, culture) features of individuals. Given our world of over-stimulus, we need to incorporate the influence of dynamic environmental and individual factors on choice and decision making.

One such factor could be an individual's mental preoccupation with other thoughts – a situation everyone can relate to. How would this impact choice avoidance (in order: decision to increase, retain, reduce or relinquish choice)? Irrespective of whether the preoccupation is with positive or negative thoughts, its impact on choice avoidance remains unclear. We side with the intuitive argument and propose that high preoccupation with increase choice avoidance. Cognitive load, as a moderator, should strengthen this relationship.

Potential implications? Firstly, it could exhibit another explanation for why people make bad decisions despite having self-information about what they want, sufficient options to choose from and sufficient knowledge to evaluate those options. The multi-choice, multi-decision environment we live in, requires people to constantly choose among multiple options for each of the numerous decisions they make every day. This cumulative effect reduces the preference for choice a lot strongly that predicted by the current literature on choice overload. Thirdly, this model could be operationalized with the help of technology to control the number of choices an individual sees depending on how preoccupied they are at the time of decision making.

Nishad Singhi
Undergraduate Student,
Indian Institute of Technology, Delhi

Nishad Singhi is a fourth-year undergraduate student in the Department of Electrical Engineering at the Indian Institute of Technology, Delhi. He is interested in cognitive psychology and neuroscience with a strong focus on computational modelling. Currently, he is working with Prof. Sumitava Mukherjee and Prof. Sumeet Agarwal on computational modelling of decision making under uncertainty. He spent the summer of 2019 working on Multi-agent Reinforcement Learning in Prof. Tao Gao's Visual Intelligence Lab at the University of California Los Angeles. He has also done some work on building brain-computer interfaces using EEG signals from motor imagery. Post-graduation, Nishad aspires to continue learning more about and pursue research in cognitive science.

Using Neurally Plausible Models to Understand Decision-making in Mixed Gambles
Nishad Singhi

Sequential Sampling Models are being increasingly employed to describe the cognitive mechanisms underlying value-based decision-making in the brain. One such model, called the Leaky Competing Accumulator (LCA) model, has been highly influential in the domain of perceptual decision-making due to its neural plausibility. However, its ability to properly fit Choice and Reaction Time (RT) data of value-based decisions has not been explored. In this paper, we evaluate the LCA model by fitting it to data from a mixed gambling task and compare it with the Drift-Diffusion Model, another prominent model of decision-making. Subsequently, we use the LCA model to investigate the extent to which various psychological mechanisms such as loss aversion and psychological inertia affect people's behaviour in mixed gambling tasks, and how they correlate with people's tendency to take risks.

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Pranjali Kirloskar

Doctoral Student, Manipal Academy of Higher Education, Manipal

Pranjali Kirloskar is a research scholar and Coordinator of International Collaborations at Manipal Centre for European Studies. With a keen interest in higher education, she is pursuing her Ph.D. in the area of internationalization of higher education in the Indian and European context. With application of bounded rationality as the theoretical framework, the research aims to understand the decision making of internationalization at select universities in her study.

Pranjali was an Erasmus Mundus scholar at Leiden University in 2014-2015 and has been a recipient of Erasmus Plus Credit Mobility fellowships in the past few years. Her academic experiences abroad propelled her to explore the aspect of internationalization in Indo-European context. Her professional work also focuses on developing inter-institutional cooperation with partner universities in Europe and facilitating student and staff exchanges.

The insights gathered during this Winter School would certainly bring value and direction to her research.

Bounded Rationality and Internationalization of Universities

Pranjali Kirloskar and Neeta Inamdar

The higher education ecology has undergone stark transformation in the past few decades. The emergence of knowledge economy, dominance of English as lingua franca, privatization of higher education, mounting demands of globalization, growing emphasis on ranking are some of the key features of the higher education landscape today. The universities find themselves internationally competing with other universities. Given the changing organizational structures and functions of higher education in the society, universities engage in complex decision-making practices. The relentless complexity in organizational and external environment has put higher education institutions in times of uncertainty. Against these complexities and uncertainties, it is important to understand 'how' universities make strategic decisions amidst the global competition.

This research is a comparative study between internationalization of 2 public universities based in Europe and India. The study was aimed at understanding the institutional and external factors influencing internationalization of these select universities. Different rounds of interviews were conducted at each of the institutions and the emerging data was coded by the researchers. The findings were analysed within the framework of bounded rationality, a theory pioneered by Herbert Simon. According to Simon, while decision making remains at the core of understanding the organizational behaviour, the internal and external environment are crucial in gauging the aspiration levels of the higher education institutions. The organizational environment may be relevant to the vision, resources, infrastructure available for internationalization among others and factors such as globalization, emergence of knowledge economy, political will, rankings, consular issues etc. may be some of the external forces affecting internationalization of universities. This study would concentrate on determining and exploring the influence of this internal and external environment relevant to internationalization of these two universities through the application of bounded rationality.

KEY WORDS: Decision making, Bounded Rationality, Internationalization of Higher Education, Europe, India

Pranshul Saini
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Pranshul is pursuing research with Dr. Saron's lab at the University of California, Davis , where he works on understanding the potential effects of meditation on cognitive functioning, indexed by brain activity and behavioural data.

His master program in Neuro-engineering at TU Munich involved understanding the brain and developing brain-inspired technologies, thereby requiring large scale data analysis. However, he decided to deviate a little from this field and stepped into the field of contemplative neuroscience where he wished to understand the effect of various mediation or yogic practices on our body and mind. It also helped him get in touch with Educational Neuroscience, where he got inspired to use his knowledge to work on the Education system in India. Now you understand why Pranshul is also working as a Senior Educational Specialist and Analysis at Educational Initiatives Pvt. Ltd :)

Improving Attention with Meditation: Implications on Bounded Rationality

Pranshul Saini

Mindfulness-based meditation practices, derived primarily from Buddhism, have been shown to cultivate various attentional skills, which include the ability to focus and sustain attention. In mindfulness of breathing practice, sustained attention is required to maintain focus on the breath while meta-awareness and cognitive control are needed to detect mind wandering and return attention to the breath. The practice of returning attention to breath, over time, is seen as cultivating stability of attention. This poster walks us through the results of our research on intensive meditation on attention and explores the possibilities of utilizing this enhanced attention to alter our limits of rationality. In the present study, we hypothesized that intense and sustained meditation practice would result in improvements in the self-regulation of attention and foster changes in neural markers of attentional control. We longitudinally investigated such effects in participants (retreat and control) engaged in Shamatha meditation techniques (6-8 hour/day) for three months in a residential retreat context. Dense-array scalp-recorded electroencephalogram data were collected during a computerized colour Stroop task at three assessment points (pre-, mid-, and post-retreat). Behavioural analysis for the reaction time results exhibited a group x assessment interaction for the neutral condition, and main effect of assessment for all the conditions - incongruent, neutral and congruent. A post-hoc analysis of the neutral condition revealed a significant group x assessment interaction from pre to mid, and a main effect of assessment in retreat group from pre to mid, whereas the main effect of assessment showed up from mid to post in the control group. Further analyses revealed that there was also a main effect of assessment of the incongruent condition from pre to mid. It suggests meditation related improvements in the retreat group from pre to mid, and practice effects in the control group from mid to post. The neural markers also suggested two effects -the first indicating an efficient task related neural processing, and the second effect as an improved attention towards visual perception. With the assumption that rationality needs attention, these results suggest that the boundaries of our rationality are fluid.

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Qian Sun

Doctoral Student, East China Normal University China

Qian Sun is a Ph.D. student, majoring in Applied Psychology at School of Psychology and Cognitive Science, East China Normal University, P. R. China. Her research concentrates on bounded rationality of cooperation, with an emphasis on descriptive studies of how people make decisions in social dilemma games. What strategies do people employ in arriving at their decisions? Whether these strategies would change after people encountered fair-related event? Do these changes exist individual differences (e.g. self-esteem, social orientation, etc.)? What do these behavioural findings tell us about the way the mind processes the relevant information? In addition, she is familiar with neuroimaging techniques and expert in statistical analysis and graphics processing.

Fairness Facilitates Cooperation by Enhancing Cooperative Expectation in Social Dilemmas

Qian Sun and Yongfang Liu

Cooperation, which is a prosocial behaviour that aims to maximize collective interest rather than pure self-interest, is vital for modern society, and it is largely influenced by fairness. However, the mechanism of the effect of fairness on cooperation in social dilemmas remains unclear. Combining the goal-expectation theory which states that individuals are more likely to cooperate when they expect others would also cooperate with the evidence that fair-related behaviour is considered as a signal for further cooperation, we inferred that cooperative expectation may be a potential bridge between fairness and cooperation. Moreover, previous studies showed that the effect of unfairness can be transmitted to an innocent third party. Thus, we hypothesized that individuals who were treated unfairly before will behave less cooperatively when they interact with an innocent third party, and cooperation expectation towards the third party may play a mediating role in the association between fairness and cooperation. Three experiments were conducted to test these hypotheses. Results showed that fairness positively predicts cooperation in social dilemmas not only when participants interacted with the person who gave them fair-related treatments before (Experiment 1 and 2) but also when they interacted with an innocent third party (Experiment 3). Moreover, the positive prediction of fairness on cooperation is by enhancing cooperative expectation (Experiment 1, 2, and 3). These findings shed light on the relationship between fairness and cooperation and revealed individuals' bounded rationality of cooperation.

Keywords: cooperative behaviour, fairness, cooperative expectation

Revati Shivnekar
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Revati is currently a doctoral student of cognitive science. She is interested in studying moral decision making under uncertainty. Her objective is to build an ecologically valid explanation of morality that would illustrate the evidence and rules that guide our decisions in morally charged situations.

The "Can" and the "Ought" of Morality

Revati Shivnekar

Double-bind situations like the famous trolley problem have been studied extensively in moral psychology. According to the dual-process theory, there are two types of dilemmas. In impersonal dilemmas, action afforded by the situation causes harm through some mechanism like pulling a lever. This type of dilemmas leads to agents taking a utilitarian, optimizing action. Alternatively, personal dilemmas are those which require the agent to use their muscle force to cause harm directly, and they evoke a deontological response or a rule-following behaviour (e.g. "never harm"). Such responses are hypothesized to be elicited employing two distinct processes: Deliberative and, intuitive, respectively (Greene, 2009). These theories contrast heuristic theories which suggest that decisions may be a function of cues from the mental state, and environment (Gigerenzer &Gaissmaier, 2011).

To investigate prospective moral decision making under uncertainty, we manipulated the effect of perception of control associated with the permitted action in the given dilemmas. Participants were given 20 moral dilemmas (10 impersonal, 10 personal). They could choose to harm a fewer number of people to save a larger group (utilitarian action), or they can remain inactive and let the larger group be harmed (deontic inaction). To examine the effect of perceived control, we manipulated the probability (either high or low) of retaliation from others if they chose to act.

49 participants participated in the experiment. The RM logistic regression model showed significant main effects for both predictor variables, dilemma type ($p<0.01$) and level of PC ($p<0.01$). The odds of acting in impersonal dilemmas were 70.43% more than in personal. Interestingly, for high PC dilemmas (103.71%), odds of acting were more than the type dimension.

Since our results suggest that participants' responses may be affected by situational

uncertainties, we advise an enquiry into how the agent's perception of interaction with the environment affects decision making.

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Samrat Mukherjee

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Samrat Mukherjee is presently working in National Bank for Agriculture and Rural Development (NABARD), India for more than 20 years now and registered as Ph.D. scholar with Tata Institute of Social Sciences, Mumbai. He has 23 years of professional experience in; (i) programme design, planning, funding, implementation, monitoring and impact evaluation of rural development projects (ii) project management, appraisal, consulting and district (sub-state) planning (iii) building linkages with institutions & professionals (iv) documentation (vi) and capacity building of partners.

He has been an avid sportsperson, having represented his State at the National level. Right from his school days, Samrat had this tendency to question the assumptions, when solving problems from exercises, which sometimes led to confusion. He carries this trait, even today when he tries to understand situations faced by farmers. When he empathises with them, then he realises that every individual farmer would need a choice architecture that he has the privilege of and to what extent, govt., or other interventions can enable them to make better decisions under uncertainty and complexity. Through his research, Samrat also aims to bridge the gap that sometimes exists between practitioners and academia.

Efficacy of agro meteorological advisory services for farmer adaptation in agriculture

Samrat Mukherjee

Climate variability is a major contributor to food insecurity and an impediment to efforts to improve the livelihoods of smallholder across India; and climate change is intensifying the problem. Agro- meteorological advisory services (AAS), which provide real time weather information-based crop/livestock management strategies and operations are increasingly recognized as crucial for adaptation in the agriculture sector, informing the decisions of farmer. Knowing that general weather forecasts are a poor match for farmer decision-making since they do not directly provide information about anticipated climate conditions at the local scale of farm decision-making (O'Brien et al., 2000; Jochec et al., 2001; Ingram et al., 2002; Patt and Gwata, 2002; Podestá et al., 2002; Vogel and O'Brien, 2006), a project intervention was designed to generate customized, location and crop specific actionable information, the data for which comes through Six (6) Automatic Weather Stations and 12 rain gauges with conventional forecasting system and WRF weather model for assimilation and forecasting system. This infrastructure and system were established for coverage in 11 villages of West Bengal. The development and dissemination of AAS mainly comprised (i) data processing, (ii) quality control, (iii) objective analysis (iv) compilation of weather forecast crop advisory obtained from agriculture university and local agriculture experts for five-day periods in local language (v) Delivery through mobile phones, (vi) operationalisation of display boards in common places by volunteers. The expected outcomes from this intervention are timely sowing/ transplanting of crops, timely fertilizer & insecticide application in required doses, enhanced Irrigation (quantum & timing) efficiency and early warning signals (on extreme temperatures, heavy rains, floods and strong winds) which affect other significant activities of farmer households. The efficacy of AAS for the farmers who had very limited access to local

forecast information prior to this, through adaptation would result in reduced losses and stability / increase in crop production. Besides, a Project Implementing Entity which is engaged for creating awareness and facilitate adaptation, the farmers are involved in co-production, which is an integral part of the AAS, through data collection, recording, dissemination and feedback process. In this project, although quite a few farmers have started using the services and made contributions for continuity of this service, there is still a sizeable chunk of farmers, who are yet to use this service. In studies of farmers, empirical studies show contradictory results on farmers' adaptation. While some find that farmers do not adapt to climate change (Arbuckle et al 2015, Prokopy et al 2015, Burke and Emerick 2016), others find that farmers are currently adapting to climate change. Further, in this project, it has not been measured to what extent the farmers have used the services. Hence to address few gaps in knowledge and evidence, which can support adaptation, the key questions would be: How can farmers' evolving information need best be identified, aggregated, and prioritized to inform incremental improvements to AAS? What is the added value of improved AAS and the opportunity cost of restrictive meteorological data, to the agriculture and farmer livelihoods? How farmers perceive and cognitively process their experiences and update their perceptions of agro meteorological information? To arrive at the efficacy of these services would be also to know whether heuristics affect farmer decision making for adapting. As per literature survey in psychology and more recently in economics, when individuals are faced with complex and uncertain decision situations, they use heuristic rules to simplify mental tasks into simpler ones. Heuristics are believed to play a role in determining perceptions in the context of climate change (Rachlinski, 2000; Sunstein, 2006; Weber 2006), but there is little empirical evidence to focus on the three heuristics that have been identified in the social psychology literature: (1) the availability heuristic, (2) the representativeness heuristic, and (3) biased assimilation. These three heuristics need to be researched because they all have a direct effect on how rapidly a farmer pursues alternative strategies through usage of AAS for agricultural productivity. A research to assess farmers' usability of AAS and the role of heuristics in the given context will be conducted with sample farmers through a set of experiments who would be from three groups viz. (a) Farmers using services for crop production (b) Farmers using services only as early warning signals (c) Farmers not using the services. The focus of the experiment would be on 2 or 3 key crop loss hazards whose gravity has been predicted to increase with climate variability. Mixed method of study with an experimental design would be used for the research.

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Samuel Fifi Hammond

Doctoral Student,
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Samuel obtained his BSc (Hons) Construction Technology and Management in June 2016 from the Kwame Nkrumah University of Science and Technology, Kumasi. Currently, he is a Ph.D. candidate in the School of Architecture and Built Environment at The University of Newcastle, Australia. His research primarily focuses on applying insights from the concept of Bounded Rationality (Behavioural Economics) to illustrate observed behaviours in the construction industry and the construction management processes. Specifically, his Ph.D. thesis is trying to demonstrate how the decision-making process of building construction stakeholders may bring about the tendency for a preference of non-adoption to adoption of green technologies and practices, and how this preference for non-adoption is a 'rational behaviour'.

The Influence of Decision-Making on the Adoption of Green Construction

Samuel Hammond, David Savage, Thayaparan Gajendran and Kim Maund

Over the last three decades, research undertaken in the Construction Management field to explain why building construction stakeholders are reluctant to adopt green construction has often been built on the rational choice perspective (of neoclassical economics) of human behaviour. As a result of this, numerous policies and governance interventions have been designed and instituted based on this rational choice perspective of human behaviour. The problem is that these numerous policies and governance interventions have had and are still having feeble impact. While policymakers and scholars insist on the significance of social and behavioural issues in the promotion of the adoption of green construction, these aspects remain relatively under-explored. Therefore, this research aims to investigate the behavioural issues underlying the reluctance of building construction stakeholders to adopt green construction. Specifically, this research draws on the concept of Bounded Rationality to explain how specific aspects of the decision-making process of building construction stakeholders can hold back the adoption of green construction.

Shashi Bhushan Kumar
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Shashi is Ph.D. candidate from Department of Management Studies, IIT Madras. His research interests are decision making in general with specific focus on decision making for complex problem in domain of business and public policy. He is working as Senior Program manager with Micro Focus. He has worked with Hewlett Packard, Texas Instruments, Motorola and TCS in various technical and management roles. Shashi has done Master in Business Law from NLSIU, Bangalore; MBA from IIM Bangalore; B.Tech. from IIT Bombay.

Publications:

- Shashi Bhushan Kumar, Nandan Sudarsanam(2020): A Decision making framework for entrepreneurial ventures: In the 6th biennial Indian Academy of Management conference
- Shashi Bhushan Kumar: Decision Problems in Indian Healthcare Policy Formulation(2020): In the 6th biennial Indian Academy of Management conference

An Analysis of Entrepreneurial Decision Making: Mediating Effect of Entrepreneurial Ecosystem

Shashi Bhushan Kumar

Entrepreneurial activity is life-blood of any economy and a major source of economic growth, job creation and innovation. Business creation is actively promoted by political leaders, and academic institutions, government agencies and established institutions and the nation's youth are encouraged to take entrepreneurship as career option. But there is a significant social cost associated with entrepreneurship in terms of failed ventures taking away capitals and human resources away from other productive economic activities, offsetting the public benefits obtained from entrepreneurship. So, there is strong imperative to improve efficiency of entrepreneurial process such that either ventures become profitable and self-sufficient or concluded to be unviable with minimal usage of capital and human resources.

Right decision-making by entrepreneurs for decision problems pertaining to opportunity identification, financing, go-to-market plan and exit is key to improving the efficiency of entrepreneurship process by ensuring profitable exit or early disengagement resulting in reduced sunk cost. Entrepreneurs have to develop unique approach of decision making as they are faced with high uncertainty, ambiguity, time pressure and emotional stress. Entrepreneurial decision making suffers from cognitive biases and infirmities like representativeness bias, escalation, overconfidence and cognitive stability. Quality of decision taken is only validated in due course of execution in market place.

In addition to enabling entrepreneurship growth by providing assistance like capitals, technical expertise, knowledge and mentors; ecosystem also enables quality decision making by providing crucible for testing ideas and decisions through well-developed value-chain and market ecosystem, business angel and networks.

This study aims to analyze entrepreneurial decision making from decision theoretic perspective, find out infirmities and biases encountered in process and understand the mediating impact an entrepreneurial ecosystem has on qualities of those decisions.

Based on above studies recommendations will be made to enhance the entrepreneurial ecosystem to improve the efficiency of entrepreneurial ecosystem in jurisdictions.

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Shooj Bhaskaran Raj

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Shooj is a strategic management scholar with interests in the psychological processes of strategy. He identifies with the Carnegie School tradition, and he is inspired by the works of Herbert Simon and James March. His research covers organizational phenomena such as creativity, cognition, simple rules, heuristics and frugal reasoning in contexts of strategic decision-making and innovation. His theoretical inclinations are towards evolutionary and complexity theories. Shooj is method agnostic - currently he uses computational simulation - in future, he intends to delve into experiments and qualitative methods. His Ph.D. at IIM-Bangalore is in the fourth year, and nearing proposal stage. He holds a master's degree in management from IIM-Kozhikode, and a bachelors in electronics from Kerala University. He has 15 years of work experience in the IT industry - building telecom software products for firms such as Siemens, Motorola and a couple of Silicon Valley startups.

Is Less More in a Complex World? Interdependence in Strategic Decision-Making and Frugal Reasoning

Shooj Bhaskaran Raj

Herbert Simon noted that "Human rational behaviour is shaped by a scissors whose blades are the structure of task environments and the computational capabilities of the actor." While extant literature in strategic management has focused mostly on the cognitive capabilities of the actor, only limited attention has been paid to the task structure of decision environment. Environments are observed to be volatile, uncertain, complex and ambiguous. The task structure of the strategic decision environment, such as complexity, does influence the decision outcomes. This paper asks the question: what influence does interdependence (complexity) among decision variables have on decision performance. We use an agent-based simulation model and the NK-landscape to mimic environmental complexity. We create two types of decision makers. First type is an ideal, all-knowing, rational analytic decision-maker (called comprehensive agent) who has complete information. Second type is a frugal decision-maker who works with incomplete information and uses rules of thumb and heuristics to navigate the environment. Both comprehensive and frugal agents are modeled to perform an adaptive walk over the decision landscape under varying levels of interdependence. Our results indicate a less-is-more effect. Frugal reasoning leads to better decision performance in high interdependence environments when compared to low interdependence environments. We further validate this result in environments where some decision variables have higher importance than others. In addition, we observe that as the number of decision variables increase, the less-is-more effect becomes more pronounced. Thus, this paper's formal modelling establishes that frugal reasoning and simple rules, which are commonly observed in naturalistic decision settings, hold advantages when the environment is complex.

Shubham Pandey

Doctoral Student, Indian Institute of Technology, Bombay

Shubham Pandey is currently pursuing Ph.D. at Indian Institute of Technology (IIT) Bombay, Mumbai. He has earned a Master's degree in Cognitive Science, and a Bachelor's degree in Mathematics and Physics. Previously, he has worked as Junior Project Fellow at National Council of Education Research & Training (NCERT), New Delhi, and as Research Assistant at International Institute of Information Technology (IIIT), Hyderabad. He is broadly interested in Curriculum-Design, Cooperation, and Cognition. His current research focuses on understanding the interaction of Emotions with Decision-Making, and the evolution of trust. Passionate about research and teaching, Shubham's interests outside academics include Poetry, People, and Public-Policy.

Modelling Religiosity: An Account Based on Faith, Trust, and Loss Aversion

Shubham Pandey

Previously Religiosity has been defined broadly as any feelings, thoughts, experiences, and behaviours that arise from a search for the 'sacred' (Hill et al., 2000) where the term sacred refers to a divine being, divine object, ultimate reality, or ultimate truth as perceived by the individual. This framework is too parsimonious, given different agents have different beliefs like God, heaven, ghosts, karma, telepathy, reincarnation, universal consciousness, etc. Here, I propose that, for simplicity, Religiosity can be considered as a psychological investment into any long-term belief. So far, no conceptual work has been done to explain Religiosity from a behavioural economics perspective. Given politico-economic decisions based on religious beliefs often lead to significant material loss, it becomes more important to model Religiosity. Here I start with the proposition that forgiveness is risk-seeking behaviour in the loss domain, and trust (and cooperation) is necessary for maximizing chances of a species for survival. Secondly, human-beings, while dealing with problems of survival and reproduction, developed loss aversion. Thirdly, the long-term anchoring heuristic led to the inheritance of faith. Finally, I show that Religiosity can be modelled as a sum of fear and faith compounded over trust accumulated over time. Possible outcomes of the model have been discussed.

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Shweta Jha

Doctoral Student, Indian Institute of Management, Indore

Shweta Jha is an FPM Scholar (Marketing) at the Indian Institute of Management (IIM), Indore, India. She has done her Master's in Business Administration (MBA) from Indian Institute of Information Technology & Management (IIITM), Gwalior, India, and Bachelor's in Instrumentation Science from University of Delhi, India. Prior to joining as a doctoral fellow, she has worked as Research Associate in Research Division at Indian Institute of Foreign Trade (IIFT), New Delhi, India. Her area of interest in research is consumer psychology especially consumer decision making. She applies experimental methodology for her research work.

Cashbacks: Buying More or Less?

Shweta Jha

Cashbacks schemes have grown in popularity in both online and offline marketplaces and has led to the emergence of e-wallets promotion used by online and offline retailers. Marketers adopt cashback schemes to get consumers to increase the size of transactions. However, the objective of this study is to show that certain types of cashbacks can lead to a reduction in the consumer's transaction size. Thus, we are evaluating consumer's choice between two products, one is of Rs.1000, and a better product which is priced at Rs.1500. The study uses an experimental approach. Subjects (N=123) were randomly allocated to one of the four between-subject conditions. There were given a situation where they had to choose between two power banks priced at Rs.1000 (Intex) and Rs.1500 (Philips). The manipulation across the cells was in the type of cashbacks. The control cell had no cashback (NC), and the other cells had flat cashback (FC, flat 20%), low cashback with a maximum (LC, 20% cashback, maximum Rs.200) and high cashback with a maxima (HC, 40% cashback, maximum Rs.200). A Chi-square test showed that the proportion of people who choose the high-priced product varied across the four cells (Chi-square=8.43, p=0.03). The proportion in the NC (no cashback) condition was 87.5%; this shows the free choice is unaffected by cashbacks. A pairwise comparison indicates that there was no significant difference between NC and FC conditions (Chi-square=0.42, p=0.42), indicating that Flat cashbacks do not affect choice patterns. A comparison of NC with HC (Chi-square=7.03, p=0.007) shows that in HC condition, consumer preferences shifted towards buying a product of lower price. A similar pattern was observed in the case of comparison of LC with NC (Chi-square=3.97, p=0.046), indicating that in LC condition too, consumers shifted towards the product of lower price. Overall results suggest that specific types of cashbacks resulting in consumers shifting towards the lower price product. For example, in this study high cashback results in preference shift to low price product compared to no cashback condition.

Supratik Mondal
Masters Student, University of Allahabad, Allahabad

Supratik completed his B.Sc in Psychology from University of Calcutta. Then he pursued clinical research from Jadavpur university. After completing the course, he joined Centre for Behavioural And Cognitive Sciences at Allahabad university for Masters in cognitive science. For his master's thesis he is working on speed accuracy trade-off phenomenon in perceptual decision making domain, where he is trying to check whether accuracy for reward contingent fast response obey speed-accuracy trade-off under condition where information is distributed in fat-tailed fashion.

Scope of Heuristic in Perceptual Decision Making

Supratik Mondal

In perceptual decision making (PDM), subjects generally must choose the correct response from multiple options. These decisions are often reward contingent on trial to trial basis. It is generally the case where relevant information is embedded in noise and that noise is assumed to have normal distribution (ND). Therefore, in accordance with the signal detection theoretical account of response selection, we can say subjects can find correct mean, with empirical reproducibility, given that they have sufficient time. These frameworks can be categorized as an example of thin-tailed distribution framework. Where in order to choose a wrong option, subjects have to make series of unlikely mistakes which will eventually lead to selection of wrong option. However, outside-lab environment does not always follow ND, in those conditions, erroneous decision is more likely to come from a single extreme event especially when information is distributed in fat-tailed fashion. So rare events are not more frequent but much more consequential under fat-tailed distribution (FTD). Nonetheless, for ND, mean gets stabilized after 30 observations up to a given level (law of large numbers), which explains the prevalence of speed accuracy trade-off (SAT) as a rudimentary phenomenon any PDM model predicts. At the same time, it takes 1011 observations for a power distribution (FTD) to bring the sample error down to similar amount (cases when there is actually a mean). Thus, to achieve same accuracy, decision time will be exponentially long. Therefore, building models based on SAT principle is not fair representation of decision process because in the real world, our decisions have to be in time, more importantly on time. So, I propose in fat-tailed condition, using heuristic will be much more efficient decision strategy because it will not undervalue tail events.

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Surbhi Uniyal

Doctoral Student, Jawaharlal Nehru University, New Delhi

Surbhi Uniyal is a doctoral scholar at the Centre for Philosophy, Jawaharlal Nehru University, New Delhi. Her research is on the topic, "Extended Mind Hypothesis and its Implications for Extended Moral Agency, Intentions and Responsibility". She has received B.A. (Hons.) degree in Philosophy from Gargi College, Delhi University. She did her M.A. and M.Phil. in Philosophy from Centre for Philosophy, Jawaharlal Nehru University. Her M.Phil. dissertation was entitled as "Extended Mind Hypothesis and the Problem of Personal Identity: A Critical Analysis". She has presented papers on various philosophical issues in national and international conferences and seminars. Her articles have been published in journals and books. She has also served as a Teaching Assistant at the Centre for Philosophy, Jawaharlal Nehru University. The area of her philosophical interest includes Philosophy of Mind, Philosophy of Language, Analytic Philosophy, Ethics, and Metaphysics.

From Extended Mind Hypothesis to Extended Rationality

Surbhi Uniyal

Clark and Chalmers in their paper "The Extended Mind" have argued that mind is not confined to the boundary of skin and skull, it rather extends to the environment. Environment plays an active role in determining our mental states like, memory and belief. The functions of the mind like problem –solving, imagination, creativity, or other mental states like memory, belief, and even rationality are seen to be extended to the external props to which we are closely coupled. We can extend the notion of coupled system to even include biological elements (other person/s). Two or more than two people can also couple together as a group. When a group performs an action, there is joint decision making, informational retrieval and problem-solving and it is not just one person who has the final say. Rather there is always a joint decision. Here the locus of control is not with the individual person but with the group or the coupled system in our terms. Following upon extended mind hypothesis it can be argued that even rationality or reasoning is not a purely internal mental phenomenon. Reasoning is dependent on external world as we are embodied and embedded beings and various external factors affect our reasoning process. The cognitive artefacts like calculator, laptop, mobile phone, or even fingers help and improve our reasoning.

Thus, the aim is to give an account of extended rationality as we are embodied beings who are embedded in an environment and environment actively shapes our various mental states like reasoning. Humans are coupled with the other humans as well as non-biological elements in the environment and this coupling affects the way we reason and the decisions we take.

Theodore C. Masters-Waage
Doctoral Student, Singapore Management University, Singapore

Theodore C. Masters-Waage is a second-year Ph.D. student studying organizational behaviour. His background is in the cognitive and neurological sciences and he tries to bring their rigorous methodological approaches to this applied field. His primary interest is in the relationship between attention and decision making. This interest forks into work investigating unconscious attentional biases driving erroneous decisions, the limits of our bounded attention, how motivated cognition impacts decision making through directing attention, and strategies to train our attention (specifically mindfulness). With diverse interests spanning numerous fields, he also intends to adopt a variety of methodological approaches, including eye-tracking, immersive virtual environments, game theory, neuroimaging, experience sampling methods, archival data, and hopefully more. At this workshop, he hopes to develop his ideas further, set up new collaborations and hopefully reinvigorate the field's interest in attention harking back the seminal work of Herbert Simon.

How a Gender Attention Bias Might Effect Group Decision Making

Theodore C. Masters-Waage

Attention is a scarce resource. How individuals allocate that resource is thus of paramount importance for understanding how people make decisions. This project explores how preconscious biases in how people pay attention to men and women in a boardroom environment effects downstream decision making. Given the prevalent negative stereotypes facing women in the workplace (e.g., low status, competence and power) we argue that observers perceive information presented by women to be of less importance to that of a male counterpart. As a result, observers allocate less of their scarce attentional resources to women when sharing information. Two experiments plan to test this hypothesis both in laboratory scenario study and an immersive 360 environment. Both studies involve a group decision task in which individuals will receive various pieces of information from different "actors" and then make a series of five decisions based on this information. In each scenario, there is a Pareto optimal decision based on each interest and particular actors' information is key in identifying this solution. In Study 1, individuals will be presented with the transcripts of a meeting with the gender of the four actors reversed across two experimental conditions (2 female; 2 male). In Study 2, a similar design is replicated but now instead of transcripts, participants will be placed in an immersive boardroom environment using a virtual reality headset. Additionally, the headset has eye-tracking technology built-in allowing for a covert measurement of observer attention during the scenario. In both studies, participants' recall of the information presented by each participant will be recorded to explore differences in recall, and ultimately participants' decisions on each of the five issues will be recorded. Additionally, the effect size of the biases between each study will be contrasted to try to get a better sense of the size of the gender bias in naturalistic environments.

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Vishwas Kukreti

Doctoral Student, Jawaharlal Nehru University, New Delhi

Vishwas Kukreti is a doctoral scholar at School of Computational & Integrative Sciences, Jawaharlal Nehru University. He is one of the first students in the country to receive a Masters in Complex Systems. His area of interest is the dynamics of complex systems and, specifically, his work focuses on the behaviour of complex socio-economic systems during phase transitions. He has spoken about his work in various international and national universities. He is an active student activist and believes access to internet should be a fundamental right.

What Goes on in an Individual Trader's Mind - An Agent Based Approach

Vishwas Kukreti

The percentage of individual traders which make a profit from active trading is very low. [1] In 2000, Brad Barber et. al. [1] studied all individual traders participating in the Taiwan stock market over a 14-year period. They reported that 75% of all participants quit after a two-year period and 90% quit after four years. According to the authors, the main culprit for traders suffering losses was overconfidence of the traders in the market. In 2010, De et. al. [2] blamed the losses incurred by individual traders to their propensity of trading under the influence of the signs of past trades which consistently results in a decline of profits. Various other models exist which try to model the behaviour of an individual trader. [3-4] Most such proposed models consider individual traders uninfluenced by their environment. Financial markets being complex systems [5], the action of its agents (here, individual traders) is not an independent one. They are influenced by their neighbours (other individual traders) and environment (the trading market). Agent based models are an excellent simulation environment for complex systems which can account for the complexity in the decision-making ability of its agents.[6]

In my research, I would construct an agent-based model which would describe the nature of an individual trader when his/her decision to trade is influenced by its environment. The study would introduce complexity in the decision-making abilities of the trader. The aim of the paper is to create an environment where the trader is influenced by multiple factors concurrently and to study emergence of a decision from the accumulation of those factors.

The article would reflect on how the complexity of different factors, when combined, has the ability to sway the investor's decision.

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Xuesong Shang
Doctoral Student, East China Normal University, China

Xuesong is a Ph.D. candidate working under the guidance of Prof. Yongfang Liu at East China Normal University. She received her Bachelor's degree in Psychology from Henan University and Master's degree from East China Normal University. Her research projects aim at exploring how social contexts influence human decision behaviours. Specifically, she is interested in self–other differences in decision making, social reference point, and prediction bias. She hopes to find ways to facilitate better decision making. She would like to find collaborators who shares her research interests (E-mail: sxs326@163.com).

Investment versus Gambling : Lay Theory and Loss Aversion

Xuesong Shang

Investment and gambling are two domains both involving money where decision makers aim to maximize gains and minimize losses. How do laypeople perceive investment and gambling? The present research explores people's lay theories about investment and gambling, and how these lay theories affect loss aversion in investment and gambling domains. Study 1 investigated people's lay theories about investment and gambling domain. Results showed that laypeople believed that investment was more likely to bring people monetary gains, while gambling was more likely to cause losses. Next four studies investigated how these lay theories affected loss aversion in the investment and gambling domains. In Study 2, loss aversion was captured by the amount of gains participants were willing to accept for the given amount of losses. In Study 3, loss aversion was captured by the amount of losses participants were willing to accept for the given amount of gains. In Study 4, we tested if loss aversion differed in stock (a form of investment) and lottery (a form of gambling) to rule out the confounding role of social norm. In Study 5, participants made real decisions in an incentivized setting. Results showed that loss aversion was stronger in gambling than in investment. Studies 6 and 7 investigated whether the differences in loss aversion would be reflected on the risk preferences. Study 6 tested risk preferences in investment and gambling. Study 7 tested risk preferences in stock and lottery. We found more risk aversion in gambling than in investment over gains, yet more risk seeking in gambling than in investment over losses. Taken together, this research reveals people's different lay theories about investment and gambling, and the findings show that laypeople demonstrate a stronger loss aversion in gambling than in investment.

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Yuhui Wang

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Yuhui Wang is a Ph.D. candidate in the CAS Key Laboratory of Behavioural Science, Institute of Psychology and Department of Psychology, University of Chinese Academy of Sciences. His research interests concern group signal detection theory, group decision making, group behaviour, information cascades and heuristics in judgement and decision making. His recent project is trying to reveal the rational choice behind social loafing.

The Ecological Rationality of Social Loafing

Yuhui Wang

Social loafing is a phenomenon in which a person exerts less effort to achieve a goal when he or she works in a group than when working alone. Social loafing exists widely and is considered by most social psychologists as a "social disease" (Latané et al., 1979). But is social loafing always a bad thing? Can social loafing be a rational choice in some environments? In this research, the loafing strategies of individuals between group tasks and individual tasks are studied by computer simulation. The results are as follows: (1) When there is only one member who can loaf, he/she should loaf to get the maximum benefit. (2) When other members of the group are loafing, the person should also loaf to get the maximum benefit. (3) When each member of the group is loafing matched, if their abilities are not strong enough, the rational choice is not to loaf, otherwise they should loaf to get the maximum benefit. (4) There is no simple functional relationship between the group size and the loafing strategy.

Yusuf Hassan
Doctoral Student, Indian Institute of Management, Indore

Mr. Hassan is a doctoral student in OB&HR area at IIM-Indore. Prior to his Ph.D., he did his post-graduation in social work and bachelor's in philosophy from university of Delhi. He has prior experience working with voluntary organizations. He had secured AIR-1 in the UGC-JRF and AIR 156 in the UPSC-CDS examinations. His current research interest is in the area of sports and faith-based marketing. Hassan has published in reputed peer reviewed journals such as Journal of Islamic Marketing, Benchmarking, Young Consumers and others.

App-based Cab Aggregators and the Challenges of Crowd Source Mobility Model

Yusuf Hassan

The cab-aggregators market in India is estimated at 9 billion dollars with over 500 million of its share coming from the organized service of app-based taxi services. These technology-based crowd source mobilities have proved to be a successful business model in developed countries such as the UK, USA and France. However, things are turning sour when the same model was introduced in emerging markets such as India. Absence of strong policies and legislations to regulate app-based cab services and a highly dynamic work environment are some of the factors posing serious challenges for the policymakers on one hand and the cab aggregators on the other hand. Frequent cases of strikes, mishandling of passengers, delayed payments and absence of accountability for wrongdoing has become a common issue in the cab aggregator industry of India. In this study, I have used an inductive approach to examine the quantifiable and non-quantifiable factors which are posing serious challenges for the long-term sustainability of such models in the Indian market. News articles on cab aggregators published in the year 2017 and 2018 in leading newspapers of the country have been analysed through the content analysis technique for the purpose. The discussion part summarizes the key takeaways from the results of the analysis.

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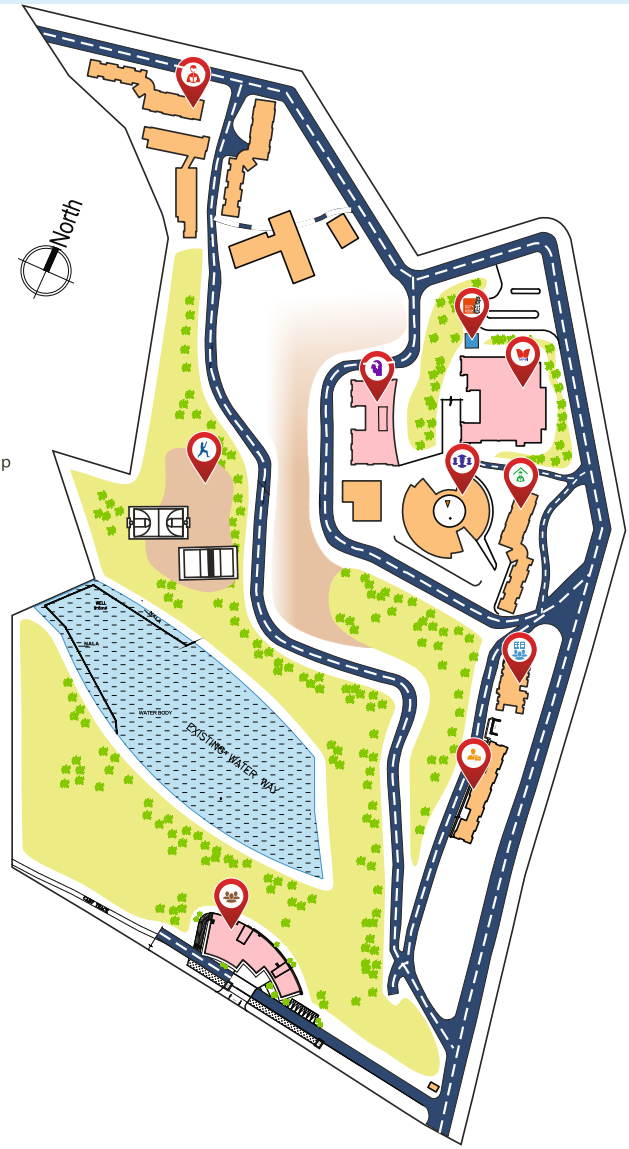
Campus Walking Trail Map

As you map out your future at TAPMI, here's a map of the beautiful campus to guide your way.

- **T. M. A. Pai Block**
  Named after the Founder of Manipal University, (Late) Dr. T. M. A. Pai
- **K. K. Pai Block**
  Named after the former Chairman of TAPMI, (Late) Shri K. K. Pai
- **Faculty Residences (Suvarna Block)**
  Named after regional river Suvarna
- **Staff/Faculty Residences (Souparnika Block)**
  Named after regional river Souparnika
- **Knowledge Center**
  Houses Library & Data Center with computer labs & server room
- **Students Center**
  With mess, convenience store & fast food center
- **Student Hostels**
  Hostels 1, 2, 4 & 5
- **Student Hostels**
  Hostel 3 with Guest House
- **Basket Ball, Volley Ball & Net Cricket Courts**
- **Syndicate Bank extension counter with ATM**



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