



Newsletter

from the Research & Publications
Office, Indian Institute of Management
Ahmedabad

June 2021





Message from Chairperson



As research output at IIM Ahmedabad continues to grow, we are thrilled to release the first newsletter of 2021. During the first half of 2021, we continued our research workshop series focusing on research methods such as Experimental-Methods Research, Using visual methods in management research, Theory building, and Heuristics to solve optimization problems. About 250 researchers joined these workshops. We also organized multiple research seminars across functional areas. Further, our digital footprint is expanding; we already crossed 20k impressions on our LinkedIn R&P posts.

The Research and Publications (R&P) office is committed to support the research aspirations of faculty and research students on multiple fronts. The office will continue to organize research webinars, seminars, brown bags, and customized workshops to acclimatize them with the research developments in all areas of management. This biannual R&P newsletter is prepared to celebrate the research related accomplishments of IIMA faculty during the period, January - June 2021.

Going forward, we are trying to strengthen research writing skills on the campus. Stay tuned for exciting developments.

Thanks all for your contributions.

Debjit Roy
Chairperson, Research & Publications Committee

01

SDG implications of water-energy systems transitions in India under NDC, 2 °c and well below 2 °c

Saritha S. Vishwanathan, Amit Garg, Vineet Tiwari, Manmohan Kapshe, Tirthankar Nag

Environmental Research Letters

Doi: <https://doi.org/10.1088/1748-9326/ac08bf>

India needs to address the immediate concern of water supply and demand due to its increasing population, rapid urbanization and rising industrialization. Additionally, changing climate will influence water resources, which will subsequently impact the overall sectoral enduse demand patterns. In this study, we have integrated a water module to the existing bottom-up, techno-economic AIM/Enduse energy systems model for India to estimate the future water demand in major end-use sectors under business as usual (BAU), nationally determined contribution (NDC), and low carbon futures (2 °C and well below 2 °C) till 2050. We also simulate the effect of water constraint on major sectors under different climate change regimes. Our results show that water-intensive end-use sectors specifically agriculture and power will face major impact under water constrained scenarios. Over the period between 2020 and 2050, policy measures taken under NDC scenario can cumulatively save upto 14 billion cubic metres (bcm) of water while low carbon scenarios can save 20-21 bcm of water, when compared with BAU scenario. In a water-constrained future, NDC and low-carbon futures can save 28-30 bcm of water. There is a need to increase the current water supply by 200-400 bcm. The marginal cost to install dry cooling system in power sector is considerably higher when compared to the cost and benefits of installing micro-irrigation systems with solar photovoltaics. Integrated policy coherence is required to achieve SDG, NDC and Paris Agreement goals in both water and energy sectors. Concurrently, regulatory and economic instruments will play an essential role in improving resource use efficiency at systems level to reduce the overall water demand.



Amit Garg

02

Quantifying the local cooling effects of urban green spaces: Evidence from Bengaluru, India

Arpit Shah, Amit Garg, Vimal Mishra

Landscape and Urban Planning

Doi: <https://doi.org/10.1016/j.landurbplan.2021.104043>

Rapid unplanned urbanization has led to a deterioration in green cover in Indian cities and an increase in urban temperatures due to the urban heat island (UHI) effect. With India's urban population set to

double from 400 million in 2011 to 800 million by 2050, it becomes critical to understand the role of urban green spaces (UGS) in mitigating the UHI. In this study, we have used high-resolution Landsat and Google Earth data and integrated it with spatial statistical analysis to quantify the cooling effects provided by UGS beyond their boundaries. We analyzed cooling effects at the level of individual UGS for 262 UGS in the megacity of Bengaluru, India. Our results showed that the average UGS provided local cooling effects till points 347 m (95% CI: 318 m to 376 m) beyond its boundary. The average UGS was 2.23 °C (95% CI: 2.13 °C to 2.33 °C) cooler than the point where it ceased to provide cooling effects. Cooling effects reduced with distance from the UGS, and were impacted by the greenness, size, and shape of the UGS. The findings of this study are important in the context of India's Smart Cities Mission that has been criticized for an inadequate focus on urban greening. Our study addresses a concern that most previous studies have used a small sample of UGS for their analysis. To the best of our knowledge, this is the first study to quantify the role of UGS in localized surface temperature reduction for a large Indian city.

03 Understanding temperature related health risk in context of urban land use changes

Vidhee Avashia, Amit Garg, Hem Dholakia

Landscape and Urban Planning

Doi: <https://doi.org/10.1016/j.landurbplan.2021.104107>

A city's climate is affected both by global warming and the local factors such as built form and the landscape. The temperature related impacts of climate change make urban areas more vulnerable particularly due to higher population concentration as well as heat island effect. Cities in India are already experiencing enhanced temperature and precipitation related impacts of climate change and extreme events, e.g., >2 °C warming in some places. This study describes a case of Ahmedabad – a city of around 5 million people (Census, 2011) and currently almost 7.8 million, located in the hot and humid western part of India to understand the current temperature-related mortality impacts and the role of land use. Satellite images (MODIS from NASA), temperature data from India Meteorological Department (IMD) and daily all-cause mortality from Ahmedabad Municipal Corporation between 2001 and 2015 have been used to create a distributed lag non-linear model. Using land surface temperature for mortality risk assessment gives significantly different results as compared to using air temperature for mortality risk assessment. This indicates impacts of localized temperature variations on mortality risks. Thus, the microclimate in a city as represented by land surface temperatures is a better indicator for estimating relative risk of temperature related mortality as compared to air temperature. The study also infers that with increase in built-up spaces by 1% in the land use mix, the relative risk of heat related mortality increases by 0.59 points at 40 °C and by 0.78 points at 45 °C.



04 Gravity and depth of social media networks

Pritha Guha, Avijit Bansal, Apratim Guha, Anindya S. Chakrabarti

Journal of Complex Networks

Doi: <https://doi.org/10.1093/comnet/cnab016>

Structures of social media networks provide a composite view of dyadic connectivity across social actors, which reveals the spread of local and global influences of those actors in the network. Although social media network is a construct inferred from online activities, an underlying feature is that the actors also possess physical locational characteristics. Using a unique dataset from Facebook that provides a snapshot of the complete enumeration of county-to-county connectivity in the USA (in April 2016), we exploit these two dimensions viz. online connectivity and geographic distance between the counties, to establish a mapping between the two. We document two major results. First, social connectivity wanes as physical distance increases between county-pairs, signifying gravity-like behaviour found in economic activities like trade and migration. Two, a geometric projection of the network on a lower-dimensional space allows us to quantify depth of the nodes in the network with a well-defined metric. Clustering of this projected network reveals that the counties belonging to the same cluster tend to exhibit geographic proximity, a finding we quantify with regression-based analysis as well. Thus, our analysis of the social media networks demonstrates a unique relationship between physical spatial clustering and node connectivity-based clustering. Our work provides a novel characterization of geometric distance in the study of social network analysis, linking abstract network topology with its statistical properties.



Anindya S. Chakrabarti



05 Borrowing from government owned banks & firm's liquidation risk

Ankitkumar Kariya

Journal of Corporate Finance

Doi: <https://doi.org/10.1016/j.jcorpfin.2021.101982>

Government Owned Banks (GOBs) have other explicit or implicit objectives apart from profit maximization. In this paper, I study whether this affects the liquidation risk of firms borrowing from GOBs. Using the natural experiment of securitization reform in India that increased firms' liquidation risk, I find that the firms borrowing exclusively from GOBs did less reduction in secured debt usage compared to other firms. In the cross-section, the effect is more substantial in the subsample of firms that are more likely to face financial distress. These results suggest that borrowing from GOBs have less liquidation risk.



Ankitkumar Kariya

06 Solving bilevel optimization problems using Kriging approximations

Ankur Sinha, Vaseem Shaikh

IEEE Transactions on Cybernetics

Doi: <https://doi.org/10.1109/TCYB.2021.3061551>

Bilevel optimization involves two levels of optimization, where one optimization problem is nested within the other. The structure of the problem often requires solving a large number of inner optimization problems that make these kinds of optimization problems expensive to solve. The reaction set mapping and the lower level optimal value function mapping are often used to reduce bilevel optimization problems to a single level; however, the mappings are not known a priori, and the need is to be estimated. Though there exist a few studies that rely on the estimation of these mappings, they are often applied to problems where one of these mappings has a known form, that is, piecewise linear, convex, etc. In this article, we utilize both these mappings together to solve general bilevel optimization problems without any assumptions on the structure of these mappings. Kriging approximations are created during the



Ankur Sinha

generations of an evolutionary algorithm, where the population members serve as the samples for creating the approximations. One of the important features of the proposed algorithm is the creation of an auxiliary optimization problem using the Kriging-based metamodel of the lower level optimal value function that solves an approximate relaxation of the bilevel optimization problem. The auxiliary problem when used for local search is able to accelerate the evolutionary algorithm toward the bilevel optimal solution. We perform experiments on two sets of test problems and a problem from the domain of control theory. Our experiments suggest that the approach is quite promising and can lead to substantial savings when solving bilevel optimization problems. The approach is able to outperform state-of-the-art methods that are available for solving bilevel problems, in particular, the savings in function evaluations for the lower level problem are substantial with the proposed approach.

07

Marketplace literacy as a pathway to a better world: Evidence from field experiments in low-access subsistence marketplaces

Madhubalan Viswanathan, Nita Umashankar, Arun Sreekumar, Ashley Goreczny

Journal of Marketing

Doi: <https://doi.org/10.1177/0022242921998385>

Multinational companies increasingly focus on subsistence marketplaces, given their enormous market potential. Nevertheless, their potential is untapped because subsistence consumers face extreme constraints. The authors contend that subsistence consumers need marketplace literacy to participate effectively and beneficially in marketplaces. Marketplace literacy entails the knowledge and skills that enable them to participate in a marketplace as both consumers and entrepreneurs. This is crucial for subsistence consumers, as they often must function in both roles to survive. Previous research, however, has not empirically examined the influence of marketplace literacy on well-being or marketing outcomes related to well-being. To address this gap, the authors implemented three large-scale field experiments with approximately 1,000 people in 34 remote villages in India and Tanzania. They find that marketplace literacy causes an increase in psychological well-being and consumer outcomes related to well-being (e.g., consumer confidence, decision-making ability), especially for subsistence consumers with lower marketplace access, and it causes an increase in entrepreneurial outcomes related to well-being (e.g., starting a microenterprise) for those with higher marketplace access. Overall, this research generates practical implications for the use of marketplace literacy as a pathway to a better world.



Arun Sreekumar

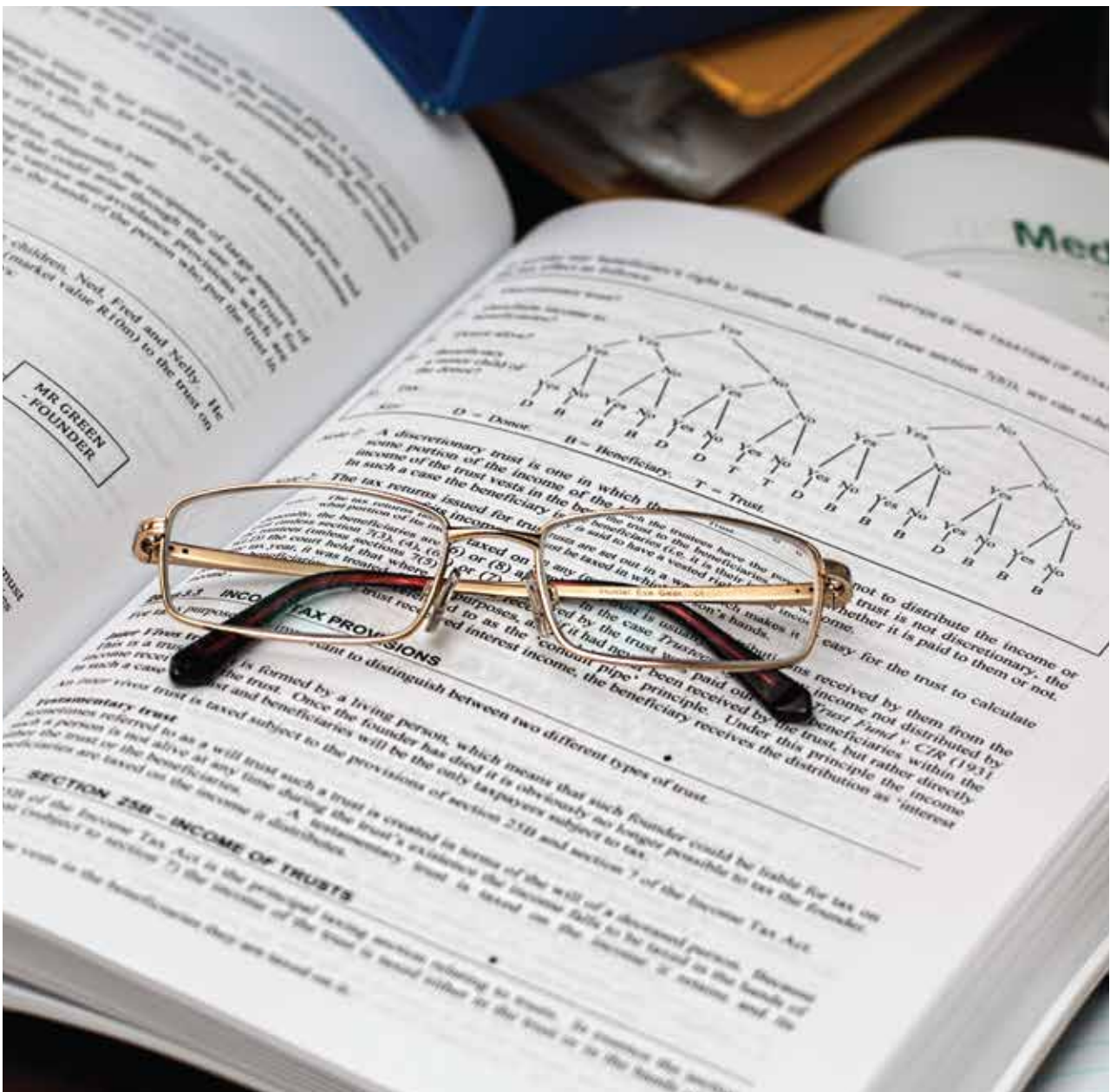
How global marketing can be more global and more marketing: A bottom-up perspective from subsistence marketplaces

Madhubalan Viswanathan, Arun Sreekumar

Journal of Global Marketing

Doi: <https://doi.org/10.1080/08911762.2021.1890866>

Our journey to subsistence marketplaces has been global in scope and resonates with marketing in beginning at the micro-level with a bottom-up orientation in understanding consumers, communities, and the larger context. This space offers an opportunity for us to discuss the broader lessons learned from this journey for global marketing.



Moothedath Luthufi, Jatin Pandey, Biju Varkkey, Sasmita Palo

Journal of Nursing Management

Doi: <https://doi.org/10.1111/jonm.13355>



Biju Varkkey

- **Aims**

To examine the relationship between nurses' perception about human resource management system and prosocial organisational behaviour through job efficacy.

- **Background**

Literature suggests that non-profit organisations are often confronted with financial constraints on one side and the expectation of delivering high-quality services on the other. Employees voluntarily engaging in service-oriented behaviours help help to bridge this gap to some extent, and human resource management system plays a significant role in eliciting the requisite behaviours. In this article, the case of nurses from non-profit hospitals has been undertaken to examine the aspects of human resource management system that needs focus while promoting prosocial organisational behaviours among the nurses for ensuring better service delivery.

- **Method**

Cross-sectional design was employed. Data were collected from 387 nurses working in non-profit hospitals in India through questionnaires and were analysed with the help of structural equation modelling.

- **Findings**

In the absence of sophisticated human resource system in non-profit hospitals, the study found that nurses' perception about human resource management system is positively related to prosocial organisational behaviours, and job efficacy partially mediates the relationship.

- **Conclusion**

Positive perceptions such as involvement with the job and communication as well as supervisors' support are essential human resource practices for fostering self-efficacy and, thus, improving prosocial organisational behaviour of nurses working in non-profit hospitals.

- **Implication for Nursing Management**

Non-profit hospitals should focus on nurses' participation and supervisory support, which would provide a better human touch approach to patient care and also improve service quality. The findings shed light on the nursing management of non-profit hospitals in terms of human resource management that has to be given much attention for institutionalizing prosocial organisational behaviour.

How does regulation impact strategic repositioning by firms across submarkets? Evidence from the Indian pharmaceutical industry

Ajay Bhaskarabhatla, Priyatam Anurag, Chirantan Chatterjee, Enrico Pennings

Strategy Science

Doi: <https://doi.org/10.1287/stsc.2020.0121>

We study coercive institutional pressures as an impetus for firms to reposition across intraindustry boundaries. Integrating the literatures on strategic repositioning and submarkets, we predict that firms respond to regulations limiting the profitability of a submarket by repositioning and shifting demand to proximate, unregulated submarkets within the industry. We expect repositioning to be more pronounced for firms with greater ability to shift demand across submarkets. Evidence from pharmaceutical firms' responses to partial price regulation in India supports our hypotheses. Repositioning firms increase prices and sales in the unregulated submarket, consistent with a Dorfman–Steiner-type model of endogenous and costly demand shifting toward the unregulated submarket. We contribute to the literature on strategic repositioning and highlight challenges of regulating industries with internal boundaries and insulated niches.



Chirantan Chatterjee

Women's disempowerment and preferences for skin lightening products that reinforce colorism: Experimental evidence from India

Arzi Adbi, Chirantan Chatterjee, Clarissa Cortland, Zoe Kinias, Jasjit Singh

Psychology of Women Quarterly

Doi: <https://doi.org/10.1177/0361684321993796>

Global racism and colorism, the preference for fairer skin even within ethnic and racial groups, leads millions of women of African, Asian, and Latin descent to use products with chemical ingredients intended to lighten skin color. Drawing from literatures on the impact of chronic and situational disempowerment on behavioral risk-taking to enhance status, we hypothesized that activating feelings of disempowerment would increase women of color's interest in stronger and riskier products meant to lighten skin tone quickly and effectively. In two experiments (Experiment 1: N = 253 women and 264 men; Experiment 2: replication study, N = 318 women) with distinct samples of Indian participants, we found that being in a state of psychological disempowerment (vs. empowerment) increased Indian women's preference for stronger and riskier skin lightening products but not for milder products. Indian men's interest in both types of products was unaffected by the same psychological disempowerment prime. Based on these findings, we recommend increased consideration among teaching faculty, research scholars, and clinicians on how feeling disempowered can lead women of color to take risks to lighten their skin as well as other issues of

intersectionality and with respect to colorism. We also encourage the adoption of policies aimed at empowering women of color and minimizing access to harmful skin lightening products.

12 Stochastic modeling of multiline orders in integrated storage-order picking system

Vishal Bansal, Debjit Roy

Naval Research Logistics (NRL)
Doi: <https://doi.org/10.1002/nav.21978>

Due to demanding service levels in e-commerce order fulfillment, modeling and analysis of integrated storage and order picking processes in warehouses deserve special attention. The upstream storage system can have a significant impact on the performance of the downstream order picking process. With a particular focus on multiline e-commerce orders, we develop an analytical modeling framework for integrated analysis of upstream (shuttle-based storage and retrieval system) and downstream (pick system) networks. To capture the consolidation delays in fulfilling multiline orders, the downstream pick system is modeled with a closed queuing network that includes synchronization nodes. The configuration of the synchronization station is adapted to model the variety of order profiles handled at the pick station. For the downstream closed queuing network, we propose a decomposition-based solution methodology that results in good solution accuracy. The resulting semi-open queuing network (SOQN) of the integrated system is analyzed using the matrix-geometric method (MGM). To improve the accuracy of analytical estimates of the measures, we propose a hybrid simulation/analytical framework, where the performance measures of complex subnetworks are obtained from simulation. We also develop a detailed simulation model of the physical system for validating the analytical and hybrid estimates of the performance measures. The results from experiments indicate that the hybrid simulation/analytical approach reduces the error in the throughput time estimates to 3% from 18% obtained from the analytical model. Then, we investigate the effect of the upstream network configuration (such as the number of storage aisles) and the downstream network configuration (such as the mixed vs. dedicated picking, CONWIP control for orders, order batching) on the order throughput times. Our analysis provides a threshold on the maximum numbers of allowable orders (CONWIP control) and number of aisles beyond which the improvement in average throughput time of the integrated system is marginal. Numerical experiments with high-order arrivals also highlight that mixed picking in the downstream network can result in significant throughput time reduction in comparison to dedicated picking.



Debjit Roy

Space between products on display: The impact of interspace on consumer estimation of product size

Yuli Zhang, Hyokjin Kwak, Marina Puzakova, Charles R. Taylor

Journal of the Academy of Marketing Science
Doi: <https://doi.org/10.1007/s11747-021-00772-4>

This research examines the effect that leaving space between products has on consumers' estimation of product size. We theorize and empirically confirm that when space is left between products (i.e., the display is interspaced), consumers are better able to distinguish the product from the environment, which results in more attention being devoted to the product, and, in turn, larger estimation of the product's size. Furthermore, we demonstrate downstream outcomes (i.e., consumer choices, purchase intentions) of the effect of interspatial product display on product size estimates; that is consumers react more favorably to products that are displayed in an interspatial product display when their product usage goals require large-sized products. Meanwhile, non-interspatial product displays are preferred when consumers holding a consumption goal geared to a small product size. Finally, we validate and solidify these novel interspace effects in both advertising and retailing contexts via a series of six studies including five different product types (e.g., shampoo, food, water bottle).



Hyokjin Kwak

14 Optimal monopoly mechanisms with demand uncertainty

James Peck, Jeevant Rampal

Mathematics of Operations Research
Doi: <https://doi.org/10.1287/moor.2020.1120>

This paper analyzes a monopoly firm's profit-maximizing mechanism in the following context. There is a continuum of consumers with a unit demand for a good. The distribution of the consumers' valuations is given by one of two possible demand distributions/states. The consumers are uncertain about the demand state, and they update their beliefs after observing their own valuation for the good. The firm is uncertain about the demand state but infers it from the consumers' reported valuations. The firm's problem is to maximize profits by choosing an optimal mechanism among the class of anonymous, deterministic, direct revelation mechanisms that satisfy interim incentive compatibility and ex post individual rationality. We show that, under certain sufficient conditions, the firm's optimal mechanism is to set the monopoly price in each demand state. Under these conditions, Segal's optimal ex post mechanism is robust to relaxing ex post incentive compatibility to interim incentive compatibility.



Jeevant Rampal

Risk-sensitive Basel regulations and firms' access to credit: Direct and indirect effects

Balagopal Gopalakrishnan, Joshy Jacob, Sanket Mohapatra

Journal of Banking & Finance

Doi: <https://doi.org/10.1016/j.jbankfin.2021.106101>

This paper examines the impact of risk-sensitive Basel regulations on debt financing of firms around the world. It investigates how firms cope with the impact through adjustments to their financing sources and capital investments. We find that the implementation of Basel II regulations is associated with reduced credit availability for lower-rated firms. Such firms mitigate the shortage in bank credit through increased reliance on accounts payable, lower payouts to shareholders, and reduced capital investments. The impact of the capital regulation is lower in countries that rely on the internal ratings-based approach. The key results are robust to controls for banking crises, bank-specific controls, and the inclusion of loan-level information. The findings of this paper substantially contribute to the understanding of the real effects of risk-sensitive bank capital regulations.



Joshy Jacob



Sanket Mohapatra



Auditors' negligence and professional misconduct in India: A struggle for a consistent legal standard

M. P. Ram Mohan, Vishakha Raj

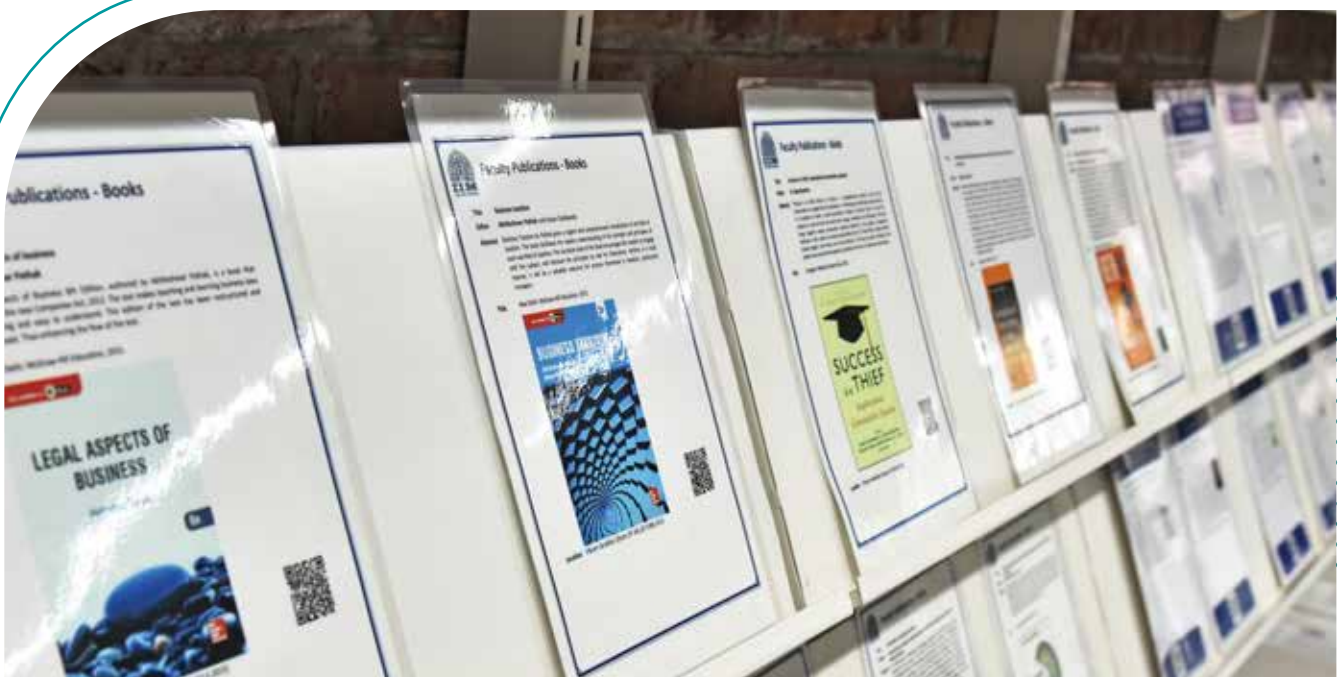
Columbia Journal of Asian Law

Doi: <https://doi.org/10.52214/cjal.v34i2.8261>



M. P. Ram Mohan

Gross negligence is a severe form of negligence. Its severity has been characterized using the presence of a mental element or mens rea accompanying the negligent act. Within the context of professional negligence, gross negligence is important as it constitutes professional misconduct. For auditors, a finding of professional misconduct through disciplinary proceedings can result in suspension or expulsion from the profession. In India, gross negligence is regularly used in disciplinary proceedings against auditors and also by the Securities and Exchange Board to determine whether an auditor has violated any securities regulations. Given the implications of a finding of gross negligence on the practice of an auditor, this paper seeks to discuss this Indian legal standard in detail. Using the statutory framework that governs auditors as a backdrop, this paper examines all reported High Court decisions from the 1950s till 2019 along with decisions of the Securities and Exchange Board with regards to an auditor's duties. We find that the approach used to discern the existence of gross negligence across these decisions has been inconsistent. In the absence of any precedent from the Supreme Court of India that details what comprises gross negligence in the context of auditors, this inconsistent approach poses a problem. This paper offers a starting point for a discussion to minimize the uncertainty currently associated with auditors' liability for professional misconduct, especially hoping to assist the newly established National Financial Reporting Authority in its decision-making process.



17 Entry timing as a mixed gamble in cross-border acquisition waves: A study of family firms

Mohammad Fuad, Vinod Thakur, Ashutosh Kumar Sinha

Family Business Review

Doi: <https://doi.org/10.1177/08944865211026175>



Mohammad Fuad

We draw upon the mixed gamble perspective to investigate the entry timing decisions made by family firms in the context of cross-border acquisition (CBA) waves. We argue that family-controlled firms trade-off short-term SEW and financial losses in favor of long-term SEW and financial gains, while moving early in CBA waves. Findings suggest that family-controlled firms have a higher preference for early movement compared with nonfamily-controlled firms. Further, we show that founder's presence on the board and acquirer's superior performance amplifies the mixed gamble trade-offs, thereby strengthening the relationship between family control and early movement within CBA waves.



18 Do Big 4 auditors limit classification shifting? Evidence from India

Neerav Nagar, Naman Desai, Joshy Jacob

Journal of International Accounting, Auditing and Taxation
Doi: <https://doi.org/10.1016/j.intaccaudtax.2021.100376>



Neerav Nagar



Naman Desai



Joshy Jacob

Extant research suggests that Big 4 auditors compared to non-Big 4 auditors act as a superior deterrent to accrual-based earnings management. We extend this research to another form of earnings management, classification shifting. Our study examines whether Big 4 auditors are more likely to reduce classification shifting in settings where the enforcement of laws is weak. Big 4 accounting firms, because of their global operations, have incentives to develop and maintain strong and uniform reputation globally. Consistent with this argument, we find that employing Big 4 auditors in India is associated with significantly lower levels of classification shifting. Our results also indicate that Big 4 auditors are likely to charge significantly higher fees than non-Big 4 auditors, which, in turn, is associated with a significant reduction in classification shifting.



19 New valid inequalities for the symmetric vehicle routing problem with simultaneous pickup and deliveries

Yogesh Kumar Agarwal, Prahalad Venkateshan

Networks

Doi: <https://doi.org/10.1002/net.22069>

The symmetric vehicle routing problem with simultaneous pickup and deliveries is considered. The current state-of-the-art method to solve this problem employs the idea of a no-good cut. This article achieves an order of magnitude improvement in the computational time needed to solve difficult problem instances by generalizing the no-good cuts and developing a way to generate improved no-good cuts much earlier in a branch-and-bound tree. Results are reported on benchmark instances in literature and new difficult instances generated by the authors. Some polyhedral results are presented about the strength of the generalized no-good cuts for a special case of the problem.



Prahalad Venkateshan

20 Asymmetric political attention across foreign and domestic private equity real estate investors

Ashish Gupta, Prashant Das

Journal of Property Research

Doi: <https://doi.org/10.1080/09599916.2021.1906732>

Private equity real estate (PERE) markets suffer from information inefficiency. In this study, we examine if Google Trends could help in partially mitigating the inefficiency issues. Using monthly PERE investment activities in India between 2005 and 2017, and controlling for macroeconomic variables, we show that relevant search trends are significantly associated with future investment activities. Compared to domestic investors, foreign investors are subject to information asymmetry and their investment activity is particularly sensitive to political search trends in the target country. We detect a mutually causal association between investment activity and political searches. Although significant, the effect of political Google Trends on investment activity is short-lived and fades within two months.



Prashant Das

21 Place matters: (Dis)embeddedness and child labourers' experiences of depersonalized bullying in Indian Bt cottonseed global production networks

Premilla D'Cruz, Ernesto Noronha, Muneeb Ul Lateef Bandy, Saikat Chakraborty

Journal of Business Ethics

Doi: <https://doi.org/10.1007/s10551-020-04676-1>

Engaging Polanyi's embeddedness–disembeddedness framework, this study explored the work experiences of Bhil children employed in Indian Bt cottonseed GPNs. The innovative visual technique of drawings followed by interviews was used. Migrant children, working under debt bondage, underwent greater exploitation and perennial and severe depersonalized bullying, indicative of commodification of labour and disembeddedness. In contrast, children working in their home villages were not under debt bondage and underwent less exploitation and occasional and mild depersonalized bullying, indicative of how civil society organizations, along with the state, attempt to re-embed economic activities in the social context. Polanyi's double movement was evident. 'Place' emerged as the pivotal factor determining children's experiences. A 'protective alliance' of community controls and social power, associated with in-group affiliations and cohesive ties, stemming from a common village and tribal identity, aided children working at home for Bhil farmers. 'Asymmetric intergroup inequality' due to pronounced social identity and class differences, coupled with locational constraints and developmental disadvantage, made migrant children vulnerable targets. Social embeddedness influences how child workers are treated because it forces employers to be ethical and not engage in bullying. However, by shifting production to children's home villages, there is an attempt to obscure the difference between child labour and child work. Thus, the seeds of disembeddedness are sown through the very act of re-embedding, potentially hampering future interventions.



Premilla D'Cruz



Ernesto Noronha

22 Designing and driving crowdsourcing contests in large public service organizations

B.S. Kiran, Rajat Sharma

Research-Technology Management

Doi: <https://doi.org/10.1080/08956308.2021.1891821>

Overview: When designed and driven efficiently, crowdsourcing can leverage the power of collective intelligence and yield innovative solutions. To date, the crowdsourcing literature has focused on exemplary corporate initiatives and less on crowdsourcing contests in public service organizations (PSOs), which have a diverse ecosystem. Existing literature has only sparsely studied the design aspect of crowdsourcing as a process. We explored crowdsourcing contests hosted by two large PSOs, Deutsche Bahn and Indian Railways, from a process perspective. We created a six-stage framework for crowdsourcing contests that other PSOs can use. We highlight the need for effective internal and external marketing to enhance the effectiveness of crowdsourcing in PSOs. With structured efforts, crowdsourcing contests can help PSOs cocreate impactful solutions by seamlessly blending internal and external knowledge and efforts.



Rajat Sharma

23 Reinventing the universal structure of human values: Development of a new holistic values scale to measure Indian values

Rajat Sharma

Journal of Human Values

Doi: <https://doi.org/10.1177/0971685821993945>

This article investigates the universal values scale, Schwartz Value Survey (SVS) for its applicability to measure cultural context-specific values. The study establishes a need to construct a new scale by identifying and incorporating Indian culture-specific values in SVS. Deriving data using self-assessment questionnaires from 709 respondents in 2 studies and analysing them using principal component analysis and structural equation modelling, the article reconceptualizes Schwartz's Portrait Values Questionnaire (PVQ) and the 10 motivational value factors and develops a new 76-item Holistic Values Scale (HVS) to measure Indian values using well-established scale development methods. The article further presents the research and policy implications and future research areas in this domain.

Over-ordering and food waste: The use of food delivery apps during a pandemic

Rajat Sharma, Amandeep Dhir, Shalini Talwar, Puneet Kaur

International Journal of Hospitality Management
Doi: <https://doi.org/10.1016/j.ijhm.2021.102977>

There is a paucity of research on the role of food delivery apps (FDAs) in food waste generation. This gap needs to be addressed since FDAs represent a fast-growing segment of the hospitality sector, which is already considered to be a key food waste generator globally. Even more critically, FDAs have become a prominent source of ordering food during the COVID-19 pandemic. In addition, the growing usage of FDAs warrants an improved understanding of the complexities of consumer behavior toward them, particularly during a health crisis. The present study addresses this need by examining the antecedents of FDA users' food ordering behavior during the pandemic that can lead to food waste. The study theorizes that hygiene consciousness impacts the enablers and barriers to FDA usage, which, in turn, shape the attitude toward FDAs and the tendency to order more food than required, i.e., shopping routine. The conceptual model, based on behavioral reasoning theory, was tested using data collected from 440 users of FDAs during the pandemic. The results support a positive association of trust and price advantage with attitude, but only of trust with shopping routine. Perceived severity and moral norms did not moderate any associations.

Exploration of factors affecting the use of Web 2.0 for knowledge sharing among healthcare professionals: an Indian perspective

Bhawana Maheshwari, Miguel Sarrion, Manoj Motiani,
Siobhan O'Sullivan, Rajesh Chandwani

Journal of Knowledge Management
Doi: <https://doi.org/10.1108/JKM-02-2020-0105>

- **Purpose:**

This study aims to explore knowledge sharing (KS) attitudes and intention of healthcare professionals in India through the use of information and communication technology platforms such as Web 2.0. The research specifically focuses on individual motivators such as the face, reputation and reciprocity, which, to an extent, are influenced by indigenous culture.

- **Design/methodology/approach**

The study uses a cross-sectional survey design to collect data. A sample of 207 was obtained from professionals working in healthcare in India. The data were analyzed using the partial least square-structural equation modeling.



Rajesh Chandwani

- **Findings**

The results confirmed that attitude toward KS leads to the intention to share knowledge. Attitude toward KS using Web 2.0 was found to be positively related to self-efficacy and reciprocity. Furthermore, face and reputation were found to moderate the relationship between attitude and intention to share knowledge while the moderating effect of rewards was found to be insignificant.

- **Research limitations/implications**

This study was limited to healthcare professionals in India. Knowledge workers in other industries can be considered for further studies.

- **Practical implications**

This study provides useful insights into KS practices using Web 2.0 among knowledge workers. Particularly it emphasizes the individual motivators, which can be manipulated by Web 2.0 designers to nurture a positive attitude toward KS and to encourage user's participation.

- **Originality/value**

The study investigates, using an integrated theoretical framework, how certain factors act as a motivator or a barrier for sharing knowledge using Web 2.0. in the specific cultural context of healthcare professionals in India.

26 Mobile technology to give a resource-based knowledge management advantage to community health nurses in an emerging economies context

Judith Fletcher-Brown, Diane Carter, Vijay Pereira, Rajesh Chandwani

Journal of Knowledge Management

Doi: <https://doi.org/10.1108/JKM-01-2020-0018>

- **Purpose**

Knowledge is a key success factor in achieving competitive advantage. The purpose of this paper is to examine how mobile health technology facilitates knowledge management (KM) practices to enhance a public health service in an emerging economies context. Specifically, the acceptance of a knowledge-resource application by community health workers (CHWs) to deliver breast cancer health care in India, where resources are depleted, is explored.

- **Design/methodology/approach**

Fieldwork activity conducted 20 semi-structured interviews with frontline CHWs, which were analysed using an interpretive inductive approach.

- **Findings**

The application generates knowledge as a resource that signals quality health care and yields a positive reputation for the public health service. The CHW's acceptance of technology enables knowledge generation and knowledge capture. The design facilitates knowledge codification and knowledge transfer of breast cancer information to standardise quality patient care.

- **Practical implications**

KM insights are provided for the implementation of mobile health technology for frontline health-care professionals in an emerging economies context. The knowledge-resource application can deliver breast cancer care, in localised areas with the potential for wider contexts. The outcomes are valuable for policymakers, health service managers and KM practitioners in an emerging economies context.

- **Social implications**

The legacy of the mobile health technology is the normalisation of breast cancer discourse and the technical up-skilling of CHWs.

- **Originality/value**

First, this paper contributes three propositions to KM scholarship, in a public health care, emerging economies context. Second, via an interdisciplinary theoretical lens (signalling theory and technology acceptance model), this paper offers a novel conceptualisation to illustrate how a knowledge resource application can shape an organisation's KM to form a resource-based competitive advantage.

The necropolitics of neoliberal state response to the Covid-19 pandemic in India

Srinath Jagannathan, Rajnish Rai

Organization

Doi: <https://doi.org/10.1177/13505084211020195>

We draw from the experience of the Covid-19 pandemic in India to outline that the neoliberal consolidation of the state is enabled by precariousness, violence, and inequality in overlapping planes of marginality. The pandemic showed the abysmal state of public health institutions in India as people experienced an erosion of dignity in both life and death. The harsh and sudden lockdown announced by the Indian state rendered workers jobless, hungry, exhausted, and on the borders of death. Instead of providing social security to workers, the state embarked on a neoliberal agenda of deregulation, weakening job security, and collective bargaining legislation. The state enacted a violent discourse of Hindu nationalism to blame Muslims for the spread of the pandemic in India to deflect attention from its abdication of responsibility in making healthcare and social security available to vulnerable segments of the Indian population. The neoliberal policy response of the state during the pandemic was embedded in the necropolitics of protecting the middle class and elite lives while directing structural violence against the working class and Muslims, making their lives disposable.



Rajnish Rai



Alternate second order conic program reformulations for hub location under stochastic demand and congestion

Sneha Dhyani Bhatt, Sachin Jayaswal, Ankur Sinha, Navneet Vidyarthi

Annals of Operations Research

Doi: <https://doi.org/10.1007/s10479-021-03993-6>

In this paper, we study the single allocation hub location problem with capacity selection in the presence of congestion at hubs. Accounting for congestion at hubs leads to a non-linear mixed integer program, for which we propose 18 alternate mixed integer second order conic program (MISOCP) based reformulations. Based on our computational studies, we identify the best MISOCP-based reformulation, which turns out to be 20–60 times faster than the state-of-the-art. Using the best MISOCP-based reformulation, we are able to exactly solve instances up to 50 nodes in less than half-an-hour. We also theoretically examine the dimensionality of the second order cones associated with different formulations, based on which their computational performances can be predicted. Our computational results corroborate our theoretical findings. Such insights can be helpful in the generation of efficient MISOCPs for similar classes of problems.



Sachin Jayaswal



Ankur Sinha

29 Competitive hub location problem: Model and solution approaches

Richa Tiwari, Sachin Jayaswal, Ankur Sinha

Transportation Research Part B: Methodological

Doi: <https://doi.org/10.1016/j.trb.2021.01.012>

In this paper, we study the hub location problem of an airline that wants to set up its hub and spoke network, in order to maximize its market share in a competitive market. The market share is maximized under the assumption that customers choose amongst competing airlines on the basis of utility provided by the respective airlines. We provide model formulations for the airline's problem for

two alternate network settings: one in the multiple allocation setting and another in the single allocation setting. Both these formulations are non-linear integer programs, which are intractable for most of the off-the-shelf commercial solvers. We propose two alternate approaches for each of the formulations to solve them optimally. The first among them is based on a mixed integer second order conic program reformulation, and the second uses Kelley's cutting plane method within Lagrangian relaxation. On the basis of extensive numerical tests on well-known data-sets (CAB and AP), we conclude that the Kelley's cutting plane within Lagrangian relaxation is computationally the best for both the single and multiple allocation settings, especially for large instances. We are able to solve instances upto 50 nodes from AP data-set within 120 and 10 minutes of CPU time for single and multiple allocation settings, respectively, which were unsolved by mixed integer second order cone based reformulation or Kelley's cutting plane algorithm in the maximum allowed CPU time (3 hours for single allocation and 1 hour for multiple allocation).

30 Understanding digitally enabled complex networks: a plural granulation based hybrid community detection approach

Samrat Gupta, Swanand Deodhar

Information Technology & People

Doi: <https://doi.org/10.1108/ITP-10-2020-0682>

- **Purpose**

Communities representing groups of agents with similar interests or functions are one of the essential features of complex networks. Finding communities in real-world networks is critical for analyzing complex systems in various areas ranging from collaborative information to political systems. Given the different characteristics of networks and the capability of community detection in handling a plethora of societal problems, community detection methods represent an emerging area of research. Contributing to this field, the authors propose a new community detection algorithm based on the hybridization of node and link granulation.

- **Design/methodology/approach**

The proposed algorithm utilizes a rough set-theoretic concept called closure on networks. Initial sets are constructed by using neighborhood topology around the nodes as well as links and represented as two different categories of granules. Subsequently, the authors iteratively obtain the constrained closure of these sets. The authors use node mutuality and link mutuality as merging criteria for node and link granules, respectively, during the iterations. Finally, the constrained closure subsets of nodes and links are combined and refined using the Jaccard similarity coefficient and a local density function to obtain communities in a binary network.



Samrat Gupta



Swanand Deodhar

- **Findings**

Extensive experiments conducted on twelve real-world networks followed by a comparison with state-of-the-art methods demonstrate the viability and effectiveness of the proposed algorithm.

- **Research limitations/implications**

The study also contributes to the ongoing effort related to the application of soft computing techniques to model complex systems. The extant literature has integrated a rough set-theoretic approach with a fuzzy granular model (Kundu and Pal, 2015) and spectral clustering (Huang and Xiao, 2012) for node-centric community detection in complex networks. In contributing to this stream of work, the proposed algorithm leverages the unexplored synergy between rough set theory, node granulation and link granulation in the context of complex networks. Combined with experiments of network datasets from various domains, the results indicate that the proposed algorithm can effectively reveal co-occurring disjoint, overlapping and nested communities without necessarily assigning each node to a community.

- **Practical implications**

This study carries important practical implications for complex adaptive systems in business and management sciences, in which entities are increasingly getting organized into communities (Jacucci et al., 2006). The proposed community detection method can be used for network-based fraud detection by enabling experts to understand the formation and development of fraudulent setups with an active exchange of information and resources between the firms (Van Vlasselaer et al., 2017). Products and services are getting connected and mapped in every walk of life due to the emergence of a variety of interconnected devices, social networks and software applications.

- **Social implications**

The proposed algorithm could be extended for community detection on customer trajectory patterns and design recommendation systems for online products and services (Ghose et al., 2019; Liu and Wang, 2017). In line with prior research, the proposed algorithm can aid companies in investigating the characteristics of implicit communities of bloggers or social media users for their services and products so as to identify peer influencers and conduct targeted marketing (Chau and Xu, 2012; De Matos et al., 2014; Zhang et al., 2016). The proposed algorithm can be used to understand the behavior of each group and the appropriate communication strategy for that group. For instance, a group using a specific language or following a specific account might benefit more from a particular piece of content than another group. The proposed algorithm can thus help in exploring the factors defining communities and confronting many real-life challenges.

- **Originality/value**

This work is based on a theoretical argument that communities in networks are not only based on compatibility among nodes but also on the compatibility among links. Building up on the aforementioned argument, the authors propose a community detection method that considers the relationship among both the entities in a network (nodes and links) as opposed to traditional methods, which are predominantly based on relationships among nodes only.



A deep-learning-based image forgery detection framework for controlling the spread of misinformation

Ambica Ghai, Pradeep Kumar, Samrat Gupta

Information Technology & People

Doi: <https://doi.org/10.1108/ITP-10-2020-0699>



Samrat Gupta

- **Purpose**

Web users rely heavily on online content make decisions without assessing the veracity of the content. The online content comprising text, image, video or audio may be tampered with to influence public opinion. Since the consumers of online information (misinformation) tend to trust the content when the image(s) supplement the text, image manipulation software is increasingly being used to forge the images. To address the crucial problem of image manipulation, this study focusses on developing a deep-learning-based image forgery detection framework.

- **Design/methodology/approach**

The proposed deep-learning-based framework aims to detect images forged using copy-move and splicing techniques. The image transformation technique aids the identification of relevant features for the network to train effectively. After that, the pre-trained customized convolutional neural network is used to train on the public benchmark datasets, and the performance is evaluated on the test dataset using various parameters.

- **Findings**

The comparative analysis of image transformation techniques and experiments conducted on benchmark datasets from a variety of socio-cultural domains establishes the effectiveness and viability of the proposed framework. These findings affirm the potential applicability of proposed framework in real-time image forgery detection.

- **Research limitations/implications**

This study bears implications for several important aspects of research on image forgery detection. First this research adds to recent discussion on feature extraction and learning for image forgery detection. While prior research on image forgery detection, hand-crafted the features, the proposed solution contributes to stream of literature that automatically learns the features and classify the images. Second, this research contributes to ongoing effort in curtailing the spread of misinformation using images. The extant literature on spread of misinformation has prominently focussed on textual data shared over social media platforms. The study addresses the call for greater emphasis on the development of robust image transformation techniques.

- **Practical implications**

This study carries important practical implications for various domains such as forensic sciences, media and journalism where image data is increasingly being used to make inferences. The integration of image forgery detection tools can be helpful in determining the credibility of the article or post before it is shared over the Internet. The content shared over the Internet by the users has become an important component of news reporting. The framework proposed in this paper can be further extended and trained on more annotated real-world data so as to function as a tool for fact-checkers.

- **Social implications**

In the current scenario wherein most of the image forgery detection studies attempt to assess whether the image is real or forged in an offline mode, it is crucial to identify any trending or potential forged image as early as possible. By learning from historical data, the proposed framework can aid in early prediction of forged images to detect the newly emerging forged images even before they occur. In summary, the proposed framework has a potential to mitigate physical spreading and psychological impact of forged images on social media.

- **Originality/value**

This study focusses on copy-move and splicing techniques while integrating transfer learning concepts to classify forged images with high accuracy. The synergistic use of hitherto little explored image transformation techniques and customized convolutional neural network helps design a robust image forgery detection framework. Experiments and findings establish that the proposed framework accurately classifies forged images, thus mitigating the negative socio-cultural spread of misinformation.

32 Central bank gold reserves and sovereign credit risk

Sawan Rathi, Sanket Mohapatra, Arvind Sahay

Finance Research Letters

Doi: <https://doi.org/10.1016/j.frl.2021.102127>

This paper performs a cross-country panel data analysis to determine whether gold holdings of central banks contribute to sovereign creditworthiness. Higher central bank gold holdings are found to reduce sovereign credit default swap (CDS) spreads, a measure of country risk. This effect is stronger during global and country-specific crisis episodes. We account for endogeneity of central bank gold reserves using an instrumental variables approach. Potential economic mechanisms for the baseline findings include lower likelihood of a rating downgrade and reduction in economic uncertainty. The findings suggest central bank gold can mitigate a nation's credit risk amidst an uncertain global environment.



Sanket Mohapatra



Arvind Sahay

The impact of COVID-19 on tail risk: Evidence from Nifty index options

Sobhesh Kumar Agarwalla, Jayanth R. Varma, Vineet Virmani

Economic Letters

Doi: <https://doi.org/10.1016/j.econlet.2021.109878>



Sobhesh Kumar Agarwalla



Jayanth R. Varma



Vineet Virmani

We investigate the impact of COVID-19 using multiple forward-looking measures of uncertainty in Indian stock markets using liquid Nifty index options. The WHO declaration of COVID-19 as a pandemic coincides with a sharp rise in all measures of uncertainty considered, including option implied volatility smiles, risk-neutral density, skewness, and kurtosis. We find that while subsequent government-imposed lockdowns and monetary easing induced a near-normalization of skewness and kurtosis, the volatility level remained elevated, demonstrating the importance of higher moments in capturing uncertainty during a pandemic. Structural breaks identified using the Bai–Perron methodology closely track the dates of significant announcements or interventions.

Rational repricing of risk during COVID-19: Evidence from Indian single stock options market

Sobhesh Kumar Agarwalla, Jayanth R. Varma, Vineet Virmani

Journal of Futures Markets

Doi: <https://doi.org/10.1002/fut.22240>

Could the COVID-19 related market crash and subsequent rebound be explained as a rational response to evolving conditions? Our results using multiple forward-looking measures of uncertainty implied from stock option prices suggest so. First, we find a gradual build-up of volatility during the

month preceding the spike at the start of the pandemic. Second, while tail risk declined after government interventions, the level of uncertainty remained elevated for stocks across industries. Third, the dynamics of decline in tail risk in stocks was industry-dependent, suggesting that the market performed a fine-grained analysis of each stock's uncertainty through the pandemic.

35 Chief marketing officers' discretion and firms' internationalization: An empirical investigation

V. Kumar, Sourav Bikash Borah, Amalesh Sharma,
Laxminarayana Yashaswy Akella

Journal of International Business Studies
Doi: <https://doi.org/10.1057/s41267-020-00378-y>

The role of key individuals, such as the chief marketing officer (CMO), in the internationalization process has largely been ignored in the international business literature. Given the importance of the CMO in internationalization and to address this gap in the literature, this study focuses on the role of the CMO – a key individual in organizations who, with adequate levels of discretion, can act as a conduit of knowledge in international markets, facilitating the internationalization of the firm. Drawing on the literature on managerial discretion, internationalization theory, and its microfoundations, we argue that the CMO's strategic, operational, and financial discretion, respectively, have positive yet diminishing effects on internationalization. Further, the international experience of the top management team (TMT) and the CMO's equity compensation moderate these relationships. We contribute to internationalization theory and the growing body of literature on the role of the TMT and CMO.



Sourav Bikash Borah

36 How does the adoption of digital payment technologies influence unorganized retailers' performance? An investigation in an emerging market

Anirban Adhikary, Krishna Sundar Diatha, Sourav Bikash Borah, Amalesh Sharma

Journal of the Academy of Marketing Science
Doi: <https://doi.org/10.1007/s11747-021-00778-y>

Unorganized retail dominates the retail landscape across emerging markets (EMs) and is undergoing rapid digitalization. However, the extant literature has not explored the impact of digital payment system adoption on unorganized retailer (UR) performance. By conducting three related studies and relying on the tenets of the resource-based view of firms, we show that digital payment technologies' adoption increases economic performance (i.e., revenue) for a sample of 403 EM URs. This effect is enhanced by such retailers' prioritization of technological investments and attenuated by their credit facilities. We find that card-based and app-based technologies positively impact UR

URs can maximize their performance by adopting two technologies, and there is a synergistic effect between card-based and account-based technologies. On average, adoption increases a UR's economic performance by 9.6%. We present a nuanced understanding of whether, how much, and which digital payment technologies should be adopted by EM URs.

37 A prescriptive analytics framework for efficient E-commerce order delivery

Shanthan Kandula, Srikumar Krishnamoorthy, Debjit Roy

Decision Support Systems

Doi: <https://doi.org/10.1016/j.dss.2021.113584>

Achieving timely last-mile order delivery is often the most challenging part of an e-commerce order fulfillment. Effective management of last-mile operations can result in significant cost savings and lead to increased customer satisfaction. Currently, due to the lack of customer availability information, the schedules followed by delivery agents are optimized for the shortest tour distance. Therefore, orders are not delivered in customer-preferred time periods resulting in missed deliveries. Missed deliveries are undesirable since they incur additional costs. In this paper, we propose a decision support framework that is intended to improve delivery success rates while reducing delivery costs. Our framework generates delivery schedules by predicting the appropriate delivery time periods for order delivery. In particular, the proposed framework works in two stages. In the first stage, order delivery success for every order throughout the delivery shift is predicted using machine learning models. The predictions are used as an input for the optimization scheme, which generates delivery schedules in the second stage. The proposed framework is evaluated on two real-world datasets collected from a large e-commerce platform. The results indicate the effectiveness of the decision support framework in enabling savings of up to 10.2% in delivery costs when compared to the current industry practice.



Srikumar Krishnamoorthy



Debjit Roy

38 Social mechanisms in crowdsourcing contests: a literature review

Shilpi Jain, Swanand J. Deodhar

Behaviour & Information Technology

Doi: <https://doi.org/10.1080/0144929X.2021.1880638>

Crowdsourcing contests allow organisations to engage with an external workforce. Over the years, the phenomenon has attracted considerable research interest. In the present review, we synthesise the crowdsourcing contest literature by adopting the social mechanism lens. We begin by observing that stakeholders in crowdsourcing contests range from individuals (solvers) to large-scale organisations (seekers). Given that such vastly different entities interact during a crowdsourcing contest, it is expected that their behaviour, too, can have a varying range of predictors, such as individual and organisational factors. However, prior reviews on Crowdsourcing contests and crowdsourcing, in general, haven't explored the phenomenon's multi-layered nature. In addressing this gap, we synthesise 127 scholarly articles and identify underlying social mechanisms that explain key behavioural outcomes of seekers and solvers. Our review makes two specific contributions. First, we determine three distinct tensions that emerge from the key design decisions that might be at odds with the central principle of crowdsourcing contests: broadcast search for solutions from a long-tail of solvers. Second, we provide three recommendations for future research that, we believe, could provide a richer understanding of the seeker and solver behaviour.



Swanand J. Deodhar

39 Estimation of Poisson mean with under-reported counts: A double sampling approach

Debjit Sengupta, Tathagata Banerjee, Surupa Roy

Australian & New Zealand Journal of Statistics

Doi: <https://doi.org/10.1111/anzs.12308>

Count data arising in various fields of applications are often under-reported. Ignoring undercount naturally leads to biased estimators and inaccurate confidence intervals. In the presence of undercount, in this paper, we develop likelihood-based methodologies for estimation of mean using validation data. The asymptotic distributions of the competing estimators of the mean are derived. The impact of ignoring undercount on the coverage and length of the confidence intervals is investigated using extensive numerical studies. Finally an analysis of heat mortality data is presented.



Tathagata Banerjee

Ground truthing the cost of achieving the EAT lancet recommended diets: Evidence from rural India

Soumya Gupta, Vidya Vemireddy, Dhiraj K. Singh, Prabhu L. Pingali

Global Food Security

Doi: <https://doi.org/10.1016/j.gfs.2021.100498>

In this paper, we quantify the divergence in the cost of current diets as compared to EAT Lancet recommendations at the subnational-level in India. We use primary data on food prices and household food purchases, and secondary data on food expenditures for a period of 12 months in 2018–19. The cost of the EAT Lancet dietary recommendations for rural India ranges between \$3.00- \$5.00 per person per day. In contrast, actual dietary intake at present is valued at around \$1.00 per person per day. In order to get to the EAT Lancet recommendations individuals will have to spend nearly \$1.00 per person per day more on each of meat fish poultry, dairy foods and fruits. The deficit in current diets relative to recommendations is marked by seasonal variations driven by volatility in the underlying food prices. This paper extends the evidence base for the affordability of the EAT Lancet diet to a subnational-level in India, using the most recent data on prices and expenditures, over time. We highlight the need for tracking rural markets at the subnational level, over time for their nutritional quality and ability to provide affordable, nutritious diets to the poor. Crop diversification, investments in rural infrastructure and well-functioning markets can move rural India towards more nutrition sensitive food environments.



Vidya Vemireddy

Seasonal time trade-offs and nutrition outcomes for women in agriculture: Evidence from rural India

Vidya Vemireddy, Prabhu L. Pingali

Food Policy

Doi: <https://doi.org/10.1016/j.foodpol.2021.102074>

Women in agriculture are involved in agricultural activities and are solely responsible for household-level unpaid work. They face severe time trade-offs between agricultural and household activities across crop seasons. Recent literature suggests that these time trade-offs may negatively impact their nutrition. However, there is no quantitative evidence exploring this relationship within an agricultural context. This paper addresses this research gap by analyzing the relationship between women's time trade-offs and their nutritional outcomes. Using a unique ten-month primary panel data of 960 women from India, our findings show that women are severely time-constrained, as they contribute significantly to agricultural as well as domestic work. Our results show that during peak seasons relative to lean seasons, women's time trade-offs (rising opportunity cost of time) are

negatively associated with the intake of calories, proteins, iron, zinc and Vitamin A. We show that this negative relationship is manifested severely among women who are landless and cultivate paddy alone (food crop) or paddy and cotton (mixed crop). This study highlights the gendered role of agricultural activities in rural households and the need to recognize time as a scarce resource when implementing policies and programs involving women in agriculture. We contribute to the literature of agriculture-nutrition linkages by examining the time use pathway in detail. Besides providing novel metrics, we discuss several policy implications to reduce women's time constraints and enhance their nutrition.

42 A systematic review of labor-saving technologies: Implications for women in agriculture

Vidya Vemireddy, Anjali Choudhary

Global Food Security

Doi: <https://doi.org/10.1016/j.gfs.2021.100541>

In this study, we systematically review the literature on adoption factors and impacts of labor-saving technologies (LSTs) by smallholder and women farmers in developing countries. 85 articles are included in the review after meeting strict selection criteria through a search across several electronic platforms. We highlight several research gaps that need future research focus. Future research should include gendered differences in factors such as – comparing extension models, social networks, and farmers' underlying technological perceptions. We show the need for designing and providing access to gender-friendly LSTs suited to the context. While there are clear impacts of LST adoption on labor and productivity, few studies examine negative consequences such as labor-displacement. Further examination of these trade-offs and differential impacts on welfare dimensions across gender is needed. Our results indicate implications for future research and policy regarding incorporating gender differences in designing, promotion, and adoption of LSTs to reduce women's work burdens and to enhance welfare outcomes.



Awards & Grants

SL.NO	Faculty Name	Type of Award/Grant
1.	Prof. Jeevant Rampal	IIMA Alumni VVEF Outstanding Researcher Award for the year 2021
2.	Prof. Amit Karna (along with Mr. Renganathan Krishnamurthy, Mr. Punyashlok Dwibedy, Mr. Mayank Aggarwal)	Madan Mohanka Research on Internationalization of Business Award for the year 2021

Appointments

SL.NO	Faculty Name	
1.	Prof. Amit Karna	Member of South Asia Advisory Council of Academy of International Business (AIB)
2.	Prof. Chinmay Tumbe	Member of The Lancet Covid-19 India Taskforce
3.	Prof. Debjit Roy	a) Senior Associate Editor, OPSEARCH Journal b) Editorial Board, Sustainability Analytics and Modeling Journal
4.	Prof. Devasmita Chakraverty	Member of the editorial board of Studies in Graduate and Postdoctoral Education Journal
5.	Prof. Hyokjin Kwak	Editor-in-Chief for the Journal of Global Scholars of Marketing Science
6.	Prof. Sachin Jayaswal	Senior Associate Editor, OPSEARCH Journal
7.	Prof. Sandip Chakrabarti	Executive Board member of the Transportation Research Group (TRG) of India for a five year term



Research Projects Initiated

Sl. No.	Title of the Project	Principal Investigator/s	Type of project
1	Military service, school desegregation and the Black-White educational gap	Tarun Jain	LRP
2	Exploring the role of drones in managing humanitarian operations during pandemic like disaster situations	Rajat Sharma	SMP
3	Academic decision-making among graduate students in relation to the social construction of “failing”	Devasmita Chakraverty	SMP
4	Impact of COVID-19 on educational attainment of the urban disadvantaged: Evidence from Ahmedabad	Ambrish Dongre	SRP
5	Responsive governance index: Improving accountability through a digital feedback loop	Samrat Gupta	SMP
6	Role of language in international commercial arbitration	Anurag K. Agarwal	SMP
7	Leadership in the social media during crisis	Pankaj Setia	LRP
8	Access to improved sanitation and dietary intake	Namrata Chindarkar	SMP
9	Splitter location and cable selection in fiber-to-the-home passive optical network	Sachin Jayaswal	SMP
10	Time and effort allocation by busy directors: Impact of firm life cycle	Neerav Nagar	SMP
11	Jati and social networks	Pritha Dev	SMP
12	The dynamics of process transparency: Empirical evidence	Anuj Kapoor	SMP
13	Sexual harassment complaints and the workplace	Akshaya Vijayalakshmi	SMP

14	Re-election and legislator performance	Tarun Jain	SRP
15	Antecedents of M&A activity in the Indian manufacturing sector in the post reform period – An exploration	Rakesh Basant	SMP





Research Projects Completed

Sl. No.	Title of the Project	Principal Investigator/s	Type of project
1	The moderating impact of authentic leadership on the relation between entrepreneurial orientation and firm performance	Mukesh Sud & Sunil Sharma	SMP
2	Preventing banking crises: where do we stand now?	T. T. Ram Mohan	SMP
3	HPWS and union commitment	Promila Agarwal	SMP
4	Macroeconomics dynamics on multi-layered networks	Anindya Chakrabarti	SRP
5	Threading the needle: Conceptualizing, measuring, and validating coopetition capability as an ability to manage co-opetition paradox and tension	Rajnish Rai	SMP
6	It takes two to tango: Complementarities between trade liberalization and financial reforms, external financial dependence, and profitability of emerging economy firms	Rajnish Rai	SMP
7	Do team-based input incentives boost skill development? Evidence from India	Tarun Jain	SRP
8	Impact of lockdown on informal sector women	Pritha Dev	SMP
9	Exploring the scarcity effect on shared consumption: The case of a natural disaster	Subhadip Roy	SRP
10	Investigation and evaluation of the impact of COVID-19 pandemic on tourism and hospitality sector	Rajat Sharma	SMP
11	Understanding the impact of co-shopper on in-store engagement and final purchase intentions	Akshaya Vijayalakshmi	SMP
12	Recovery post Covid-19: Implications for retail stores	Anuj Kapoor	SMP
13	Information and behavior during COVID-19	Jeevant Rampal	SMP



Working Papers Published

WP No.	Title	Author
2021-01-01	Determinants of disagreement: Learning from Indian inflation expectations survey of households	Gaurav Kumar Singh, Tathagata Bandyopadhyay
2021-01-02	A 2020 Vision of India's farm market reforms	Satish Y. Deodhar
2021-02-01	Doctrinal conflict in foreign investment regulation in India: NTT Docomo vs. Tata Sons and the case for "downside protection"	M. P. Ram Mohan, Nobuhisa Ishizuka, Sidharth Sharma
2021-02-02	Equity portfolio diversification: how many stocks are enough? Evidence from India	Rajan Raju, Sobhesh Kumar Agarwalla
2021-03-01	A general purpose exact solution method for mixed integer concave minimization problems	Ankur Sinha, Arka Das, Guneshwar Anand, Sachin Jayaswal
2021-03-02	Central bank gold reserves and sovereign credit risk	Sawan Rathi, Sanket Mohapatra, Arvind Sahay
2021-04-01	The role of insolvency tests: Implications for Indian Insolvency Law	M. P. Ram Mohan
2021-04-02	A minimum buyback requirement in open market repurchases: Impact on the signalling role	Pranjal Srivastava, Joshy Jacob, Ajay Pandey
2021-04-03	Government responses, business continuity, and management sentiment: Impact on debt financing during COVID-19	Balagopal Gopalakrishnan, Joshy Jacob, Sanket Mohapatra
2021-06-01	Insolvency set offs in India: A comparative perspective	M. P. Ram Mohan, Vishakha Raj



Research Workshops Organized

Sl. No.	Name of the Facilitator	Topic	Date
1	Prof. Jeevant Rampal	Experimental-Methods Research	January 5, 2021
2	Prof. Ernesto Noronha & Prof. Premilla D'Cruz	Using visual methods in management research	February 10, 2021
3	Prof. Aditya C. Moses	Theory Building	March 30, 2021
4	Prof. Diptesh Ghosh	Heuristics to solve optimization problems	May 24, 2021





Research Webinars Organized

Sl. No.	Name of the Speaker & Affiliation	Topic	Date
1	Prof. Ludvig Levasseur Indian Institute of Management Bangalore	Time perspective and entrepreneurial orientation in family firms: Some theoretical propositions	January 4, 2021
2	Prof. Martin Parker University of Bristol	Making management education more relevant to organisational and societal challenges	January 8, 2021
3	Prof. Gabrielle Kruks-Wisner University of Virginia	Claiming the state: Active citizenship and social welfare in rural India	January 20, 2021
4	Prof. Matthew J. Higgins University of Utah	Unpacking the effects of adverse regulatory events: Evidence from pharmaceutical relabelling	January 25, 2021
5	Prof. Anindya S. Chakrabarti, Indian Institute of Management Ahmedabad	Financial comovement networks: Instability, centrality and ripples	February 11, 2021
6	Prof. Mili Mehtrotra The University of Illinois Urbana-Champaign	An analysis of incentive schemes for participant retention in clinical studies	February 19, 2021
7	Prof. Jelle de Vries Erasmus University	Efforts go to waste? Planet-profit trade-offs in supply chain collaboration	February 23, 2021
8	Prof. Subodha Kumar Temple University	Emerging business analytics and disruptive technologies related issues in operations management, information systems, marketing, and other related domains	March 1, 2021
9	Prof. Vivek Sah University of Nevada, Las Vegas	Steering consumers to affiliated financial services: Evidence from mortgage pre-approvals and the cost of credit	March 18, 2021
10	Prof. Andrew J. Hoffman University of Michigan	How culture shapes the climate change debate	March 26, 2021
11	Prof. Samuel Asher Johns Hopkins SAIS	The long-run development impacts of agricultural productivity gains: Evidence from irrigation canals in India	April 8, 2021
12	Prof. Manju Ahuja University of Louisville, Louisville	Trading well-being for productivity: Mobile overuse from a partner's perspective	April 9, 2021
13	Prof. Akshaya Vijayalakshmi, Indian Institute of Management Ahmedabad	Evaluating adolescents' responses to internet ads: Role of ad skepticism, internet literacy, and parental mediation	April 21, 2021

14	Prof. Nitin R. Joglekar, Boston University	Just-in-case supply chain scenario planning	May 14, 2021
15	Dr. Ritesh Jain, Institute of Economics, Academia Sinica, Taiwan	Rationalizable implementation: An iterative characterization	May 17, 2021
16	Prof. John Jongho Park, Pennsylvania State University	Identifying intrapreneurial leadership competencies in engineering companies	June 4, 2021
17	Prof. Sunderesh S. Heragu, Oklahoma State University	Deterministic and stochastic models for manufacturing, warehousing and healthcare systems	June 11, 2021
18	Prof. Sachin Jayaswal, Indian Institute of Management Ahmedabad	Directed fixed charge multicommodity network design: A cutting plane approach using polar duality	June 21, 2021



Brown Bag Seminars Organized

Sl. No.	Name of the Facilitator & Affiliation	Topic	Date
1	Mr. Abhishek Shaw and Mr. Sawan Rathi	Agricultural income support schemes: Measuring the effects of Rythu Bandhu in India	January 8, 2021
2	Prof. Joshy Jacob	Mutual fund asset allocation during COVID-19	February 12, 2021
3	Mr. Avijit Bansal	Impact of price path on disposition bias	March 12, 2021
4	Prof. Anish Sugathan	Long run impact of coal power and differential institutional adaptation: Evidence from India	April 23, 2021
5	Prof. Chirantan Chatterjee	Fight or surrender to counterfeiters: Litigation as a response to trademark infringement	May 14, 2021
6	Ms. Bharati Singh	Examining the relationship of earnings management and corporate governance of a firm with surveillance actions	June 18, 2021

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