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## RESEARCH DAY 2019

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# Typology of Platforms: A Fuzzy Set Approach to Platform Configurations

Ramya K Murthy<sup>1</sup>, Anoop Madhok<sup>1</sup>

<sup>1</sup>Schulich School of Business, York University, Toronto, Canada

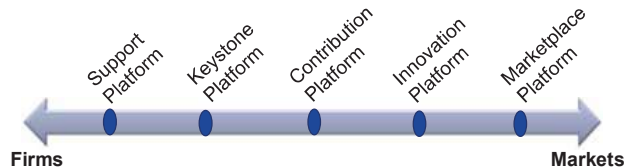
## Introduction

- Different platforms have different value propositions (e.g. Apple, Facebook, Amazon). Though the question of how the platform characteristics influences its growth has been focal, little is known about how the varied value propositions impact these causal relationships.
- We build a typology of platforms based on its *marketness*, a construct to define the degree of market-like attributes employed in the platform to create value.
- We use fuzzy-set qualitative comparative analysis to arrive at the configuration of platform characteristics necessary for high growth in each type of platform.

## Objective

- Extant typologies of platforms identified in the literature attempt to integrate the different literature streams but do not explore the underlying causal mechanisms between platform characteristics and growth. Our paper fills this gap by identifying a typology based on the *marketness* in a platform and then analyzes the causal relationships.

### Platform Continuum



	Support ecosystem	Keystone ecosystem	Contribution ecosystem	Innovation ecosystem	Marketplace ecosystem
Market Attributes	Information exchange Trading Matching	Information exchange Trading Matching Substitutability	Information exchange Social activity Matching Substitutability	Information exchange Social activity Matching Substitutability Trading	Information exchange Trading Matching Substitutability Price competition
Examples	Online sales channels, support forums	Apple and Android app stores	Reddit, Facebook, Twitter	Kaggle, TopCoder, Coursera	Amazon.com, Expedia, Shopify

Characteristics	Solution 1	Solution 2	Solution 3	Solution 4
Marketness	LOW	MEDIUM	HIGH	
High Platform Control	●	○	●	⊗
Openness		○	⊗	
Complement variety	⊗	○	○	○
Non-generic complementarity	●	○	○	⊗
Consistency	0.968	0.969	0.751	0.86
Raw coverage	0.728	0.308	0.152	0.53
Unique coverage	0.728	0.287	0.129	0.13

● - Core Condition Present  
⊗ - Core Condition Absent

○ - Peripheral Condition Present  
○ - Peripheral Condition Absent

## Method

- Sample consisted of 33 ecosystems having an online platform and based in North America.
- We used web scraped data across multiple web pages to identify the market attributes employed in the platform.
- We collected qualitative and quantitative data from company sources, news reports and industry analyst reports. The data for all variables were calibrated against industry benchmarks
- We used fsQCA that conceptualizes cases as configurations of causal attributes and identifies necessary and sufficient conditions for the presence or absence of the outcome using logic of set theory.

## Results and Impact

- Platform characteristics are interconnected and take the form of different configurations at different degrees of marketness
- As marketness increases, platform firm control and complement variety decreases; non-generic complementarity gives way to generic complementarity
- In contrast to extant theory, we find that interface openness is only a peripheral condition and its absence can still lead to high growth when coupled with high platform firm control and non-generic complementarity

Marketness	Recipe for High Platform Growth
Low	High Platform Control . ~Complement variety . Specific complementarity
Medium	High Platform Control . Openness. Complement variety . Specific complementarity
High	[~High Platform Control . Complement variety . ~Specific complementarity] + [High Platform Control . ~Openness . Complement variety . Specific complementarity]

Boolean Algebra notation used above depicts:

“.” denotes Logical AND

“~” denotes Logical negation

“+” denotes Logical OR

## Discussion

- Platform continuum serves as an organizing framework to identify the type of platform based on marketness. The continuum shows that for high platform growth the configuration of characteristics needs to change as the position of the platform on the continuum changes.
- Heterogeneity in platform performance can come from differences in alignment between marketness and platform characteristics
- These findings can inform entrepreneurs in their decisions on defining platform characteristics.

## Take away message

- Platforms differ based on the marketness employed
- No one dominant path to platform growth rather an alignment between platform characteristics and value proposition-defined marketness



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# Green Building Adoption in Emerging Market Countries: The Role of Foreign Direct Investment

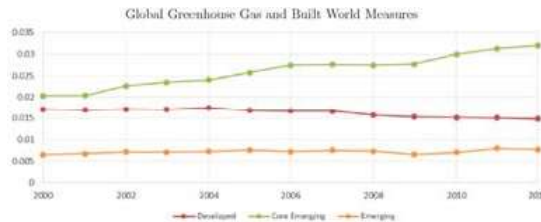
Avis Devine<sup>1</sup>, Meagan McCollum<sup>2</sup>

<sup>1</sup>Schulich School of Business, York University, Toronto, Canada; <sup>2</sup>University of Tulsa, Tulsa, Oklahoma, USA

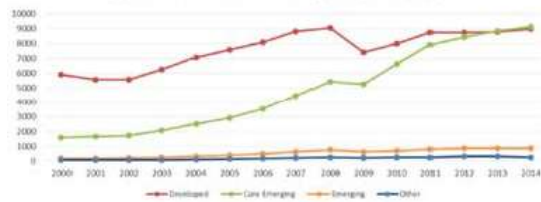
## Motivation: Emerging Markets are Key

Emerging market countries represent the majority of *GLOBAL*: population, greenhouse gas production, built world construction

As developing economies get richer, they will consume – and emit – more.



(a) Total Greenhouse Gases Per Capita, by Country Type



(b) Total Gross Fixed Capital Formation, by Country Type

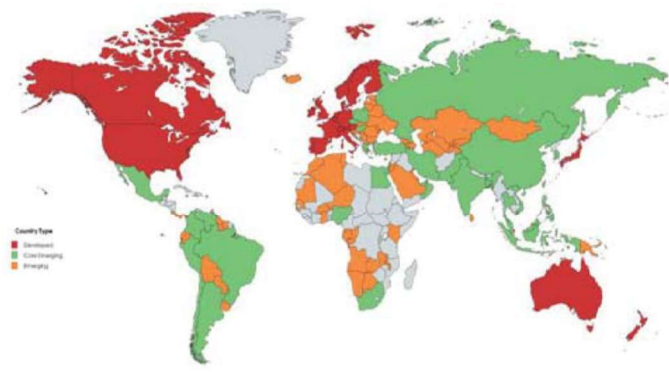
## Hypotheses

**H1:** As emerging market countries advance their economies, they begin to adopt environmentally-sensitive building practices.

**H2:** Foreign Direct Investment (FDI) explains increases in the adoption of green building technology in emerging market countries.

**H3:** The creation and adoption of domestic environmental building certification schemes follows foreign investors' exportation of green building technology to an emerging market country.

## Country Designations



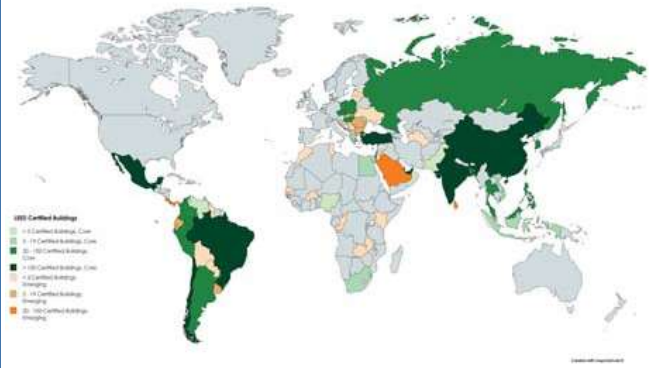
## Certification Programs

Origins and Uptake in Core and Emerging Countries

Program	Home Country	Year of Inception	Countries with Certifications, Total/Developing	Year End 2015 Certifications, Core/Emerging
BEE Star	India	2006	1 / 1	136 / 0
GBEL*	China	2008	2 / 2	1,446 / 0
GRI	Malaysia	2009	1 / 1	51 / 0
GREENSHIP	Indonesia	2011	1 / 1	14 / 0
Green Star SA	South Africa	2008	3 / 2	135 / 0
GRIHA	India	2000	1 / 1	550 / 0
C-SEED*	South Korea	1996	1 / 1	630 / 0
HK BEAM Plus	Hong Kong	2010	3 / 3	25 / 0
SI 5281	Israel	2005	1 / 1	259 / 0
TREES	Thailand	2010	1 / 1	11 / 0
BREEAM	United Kingdom	1990	48 / 17	174 / 47
DGNB	Germany	2007	14 / 8	6 / 7
Green Mark	Singapore	2005	21 / 13	104 / 27
LEED	United States	1994	109 / 67	2835 / 233
Passive House	Germany	1990	38 / 10	11 / 4

## Developing Countries, LEED Adoption

Similar Analyses for other certification programs



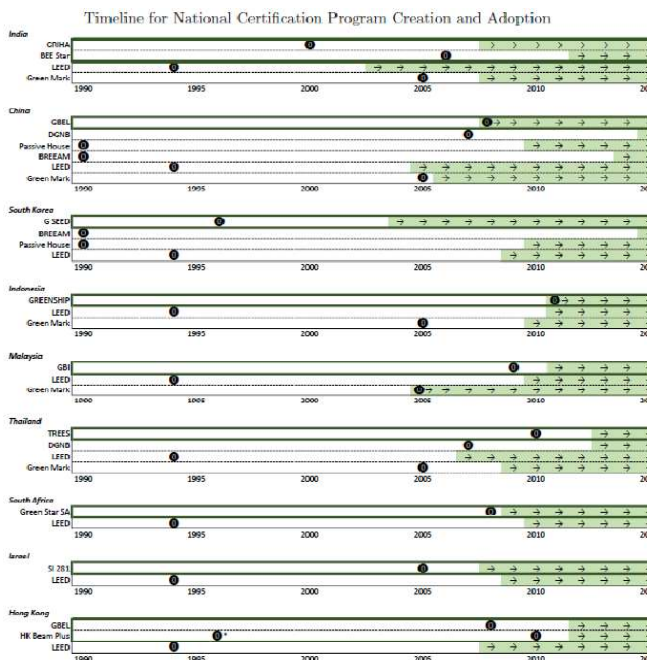
0 Indicates program origin → Indicates program use  
Programs in dark boxes are domestic, below are international programs

## Other Analyses

- Extensive Diffusion Margin
  - In sustainable building tech across different market development stages
- Dispersion, Speed of Convergence analyses
  - In green building certification vs. GDP per capita
- OLS, probit, and instrumented variable regressions
  - For FDI driving green building certification adoption
- For probability of creation and scale of adoption of new country-specific green building certification program

## Findings

- More advanced developing economies adopt green building certification at a higher rate
- There is consistent evidence of positive, significant relationship between FDI and green building certification adoption
- In most advanced emerging economies with a domestic program, that program was preceded by international green building certification activity, exported to that market by FDI





# Understanding Coworkers' Positive Responses to Disability Employment

Brent Lyons<sup>1</sup>, Chris Zatzick<sup>2</sup>, Tracy Thompson<sup>3</sup>, & Gervase Bushe<sup>2</sup>

<sup>1</sup>Schulich School of Business, York University; <sup>2</sup>Simon Fraser University; <sup>3</sup>University of Washington

## Introduction

### RESEARCH QUESTION:

Why and under what conditions do coworkers of employees with intellectual and developmental disabilities (EIDD) respond in ways to working with PIDD that are beneficial to the organization?

### PREVIOUS RESEARCH:

In organizational behavior research, disability is predominantly studied as a stigma and persons with disabilities (PWD) are stereotyped as lacking competence and in need of help from others (Beatty et al., 2018). In turn, PWD are thought to be subject to negative treatment, pity, and paternalism (Stone & Colella, 1996).

Coworkers' positive responses to PWD are typically thought to occur when PWD convey **competence** (i.e., good performance) which counteracts concerns of incompetence, decreases pity and increases admiration (Lyons et al., 2017; 2018). However, PWD may be unable to convey competence (e.g., lack of accommodation) and research is unclear about alternative routes through which coworkers respond positively toward PWD in ways that are beneficial to the organization.

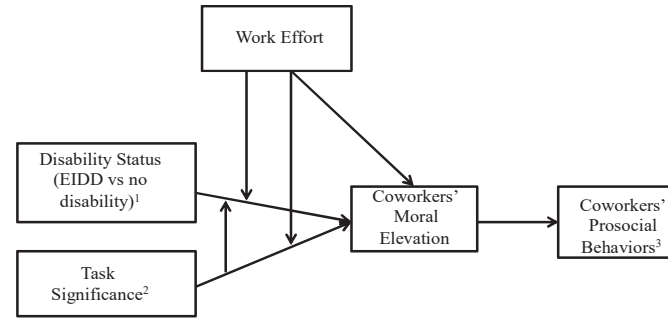
### CURRENT RESEARCH:

We propose that **moral elevation**, an emotional state experienced by individuals when witnessing uncommon acts of goodness (Haidt, 2000, 2003), arises when working with PWD. Moral elevation explains coworkers' prosocial behaviors toward others in the organization.

We propose that moral elevation is most likely to be elicited in coworkers when PWD exhibit behaviors that are morally virtuous (**hard work**) and when their work is impactful on other people (**task significance**).



## STUDY MODEL



Note:

<sup>1</sup> Study 1 and Study 2

<sup>2</sup> Study 2 and Study 3

<sup>3</sup> Study 3

EIDD = Employee with intellectual and/or developmental disability

## Study 1 – Experimental Scenario

### PURPOSE:

To examine the effect of disability status, effort, and task significance on coworkers' moral elevation.

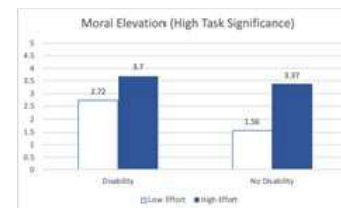
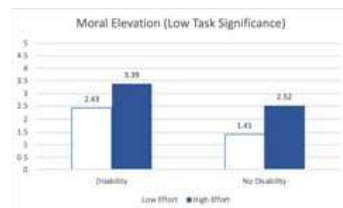
### METHOD:

Participants were asked to think of themselves as a member of a project team with new member, David who is EIDD.

We randomly assigned 363 Mechanical Turk participants to one of eight experimental conditions: **Disability status** (no vs yes), David's **work effort** (high vs low), David's **task significance** (high vs low).

Participants then completed a measure of **moral elevation**, including three components: (1) desire to be a better person, (2) admiration, and (3) positive views of humanity.

### RESULTS:



## Study 2 – Field Study

### PURPOSE:

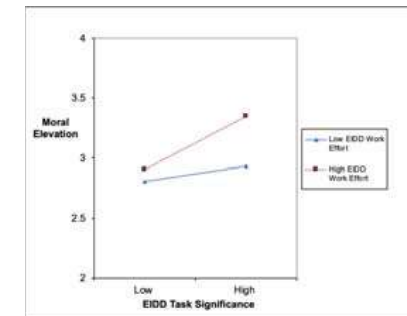
To examine the effect of EIDD effort and task significance on coworkers' moral elevation and prosocial behaviors in a real organization.

### METHOD:

Participants were 80 employees of a credit union (in Western Canada) who recently started working with EIDD.

Measures were completed at two points, separated by 3-4 months. At Time 1, participants completed measures of **perceived EIDD work effort** and **perceived EIDD task significance** and at Time 2 participants completed measures of **moral elevation** and **prosocial behaviours**.

We also controlled for **perceptions of competence**.



Moral elevation positively related to prosocial behaviors ( $b = .29, p < .05$ ) and mediated the association between task significance and prosocial behaviors.

The mediation was stronger when effort was high compared to low.

## Take Away Message

We show another path, beyond competence, to coworkers' positive responses to disability employment. Coworkers of EIDD experience moral elevation when they encounter EIDD in the workplace, especially when EIDD exhibit high levels of work effort and engage in tasks that are significant. Moral elevation in turn influences coworkers' willingness to engage in prosocial behaviors toward others in the organization. Overall, our research demonstrates conditions under which disability employment can elevate coworkers and result in positive outcomes for organizations.

### PRACTICAL IMPLICATIONS:

Our results suggest that organizations can benefit from placing EIDD in work that is significant and that is more likely to be beneficial when communication is clear in regard to EIDD work effort.



# Environmental Disclosure and the Cost of Capital: Evidence from the Fukushima Nuclear Disaster

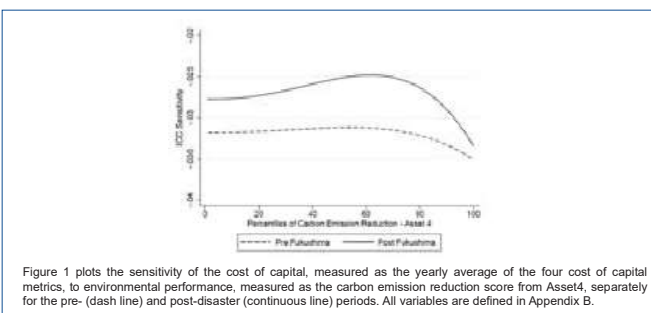
Pietro Bonetti<sup>1</sup>, Charles H. Cho<sup>2</sup>, Giovanna Michelon<sup>3</sup>

<sup>1</sup>IESE Business School, Barcelona, Spain; <sup>2</sup>Schulich School of Business, York University, Toronto, Canada; <sup>3</sup>University of Exeter Business School, Exeter, UK

## Introduction

- On March 11, 2011, a tsunami disabled the power supply and cooling units of the Fukushima Daiichi reactors, causing the meltdown of all nuclear cores over the following three days.
- Investor uncertainty about the economic implications of the disaster created an upsurge in demand for environmental information, particularly information about firms' exposure to the disaster.
- As such, we examine the relation between environmental disclosure and the cost of capital using the Fukushima nuclear disaster as a source of exogenous variation in the demand for environmental information; hence a shock to the cost of capital for Japanese firms.

Figure 1: Sensitivity of cost of capital to environmental performance



## Method

- To be included in the sample, a firm must be listed in the First Section of the Tokyo Stock Exchange for the 2002-2013 period and must have data available to compute the implied cost of capital metrics and disclosure and control variables.
- The sample comprises 4,216 firm-year observations from 392 unique firms during the 2002-2013 period.
- We take the firm-specific average of each disclosure precision determinant variable over the three years prior to the disaster (i.e., 2007-2009) and use a full set of control variables.
- We collapse the sample to the firm level, i.e., one observation per firm.
- We regress the  $CO_2\_DISCLOSURE_i$  dummy on the firm-specific average of the determinant variables, with industry fixed effects using the two-digit SIC industry classification code, to obtain the firm-specific weights that satisfy the pre-determined moment conditions.

## Results and Impact

- Firms with high disclosure precision in their environmental reports experienced a **lower** increase in the cost of capital than firms with **low** disclosure precision.
- The effect on the cost of capital is driven by an increase in investor uncertainty about the energy supply shortage that followed the disaster, rather than future regulatory costs.
- After the disaster, firms with **low** disclosure precision in the pre-disaster period **increased** their environmental disclosures significantly more than firms with high disclosure precision.



## Discussion

- Our findings provide insights into whether unregulated, non-financial disclosures inure to the benefit of firms when they are hit with economic shocks.
- We show that environmental disclosures mitigate the increase in the cost of capital and shed light on the underlying mechanism – energy dependence – through which environmental disclosure affects the cost of capital.

## Take away message

- Firms that disclose carbon emission information experience a **lower** increase in the cost of capital compared with firms that do **not** disclose information about their carbon emissions.
- Effect of disclosure is more about firm's exposure to **energy shortage** (vs. relevance to future regulatory costs for pollution abatement).
- Disclosure reaction in the post-disaster period is **higher** for firms that do **not** disclose carbon emissions data before the disaster.



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## Hypothesis

The precision of a firm's environmental disclosures in the pre-disaster period is negatively associated with the impact of the disaster on the firm's cost of capital.



# Envy, Future Possible Self, and Career Self Management

Chris Bell & Camellia Bryan

Schulich School of Business, York University, Toronto, Canada

## Research Question

- Does envy affect images of one's future self, and in turn, career self-management?

## Future Possible Self

- Contains information about how to achieve the future self
- Social constructs, shaped by context and assessed by social comparison

## Envy

- Social comparisons are ubiquitous and provide information about:
  - Which goals are valuable
  - What performance level to strive for
  - Relative social ranking and status
- BUT comparison can produce envy and, consequently:
  - Feelings of inferiority
  - Lowered self-esteem, efficacy
  - Impaired goal-setting, planning

## Career Self Management

- A future oriented, strategic decision-making activity
- Multiple proactive behaviours: self-appraisal; information-gathering; goal-selection; planning; problem solving; anticipating; striving



## Study 1

### Inter- and intra-group envy

- Envy:** Participants completed two separate comparison tasks thinking of a classmate (intragroup) or students from a competing business school (intergroup)
  - Completed intra- and intergroup envy scales
- Future Self:** Cantril's Self Anchoring Scale (1965)
  - 'On which step of the ladder to you think you will be 5 years from now?'
- Results:** With both envy scales in the analysis:
  - Intragroup envy was negatively associated with position on the Cantril Self Anchoring Scale ( $\beta = -1.16$ ,  $t(43) = -1.75$ ),  $p = .09$ )
  - Intergroup envy was not significantly associated with position

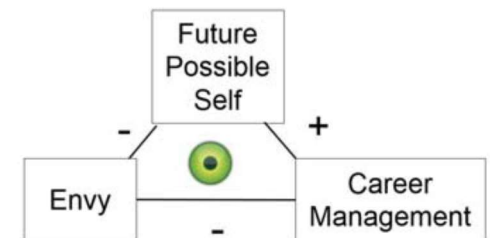
## Study 2

### Test of the mediation model

- Participants: undergraduate business students in a second year core course (N = 119; 68 female, 51 male; mean age 18.8, SD = .48)
- Survey Wave 1**
  - IV:** the envy prompts and measures (same as study 1)
  - MED:** Possible self measure
    - Write about future work self
    - 'How vividly can you imagine your future self'
  - Control:** Labile self esteem
- Survey Wave 2**
  - DV:** Proactive Career Behaviours (PCB)
    - Skill development; networking, career planning, and advise seeking or consultation
  - DV:** Career Decision-Making Self-Efficacy (CDMSE)
    - Information gathering; Goal selection; Making plans; Problem solving



## THE MEDIATION MODEL



## Take away message

- Students' successful job placement represents a return on a significant investment made by themselves, their families, the educational institution, and society
- The academic environment and job search processes can be very competitive
  - A context of frequent social comparisons and potential envy
- Envy may be greater when the envied person's outcomes seem within reach
- BUT envy may impede success by eroding future possible selves, thereby reducing confidence, efficacy, and certainty about means to succeed

## STUDY 2 RESULTS

	Positive Future Self				Proactive Career Behavior				CDMSE			
	B	t	LLCI	ULCI	B	t	LLCI	ULCI	B	t	LLCI	ULCI
Envy Log10	-0.753 <sup>†</sup>	-1.74	-1.47	-0.04	-0.637 <sup>*</sup>	-2.4	-1.08	-0.2	-0.610 <sup>**</sup>	-2.81	-0.97	-0.25
Labile Self Esteem	0.004	0.04	-0.15	0.16	-0.057	-1.02	-0.15	0.04	-0.053	-1.14	-0.13	0.02
Sex (0 = ♂; 1 = ♀)	-0.042	-0.22	-0.36	0.27	-0.189	-1.65	-0.38	0	-0.251 <sup>**</sup>	-2.67	-0.41	-0.1
Positive Future Self					.114 <sup>*</sup>	2.02	0.02	0.21	.095 <sup>*</sup>	2.04	0.02	0.17
Indirect effects: PCB $\beta = -.09$ , 95% LLCI = -.30, ULCI = .00												
CDMSE $\beta = -.07$ , 95% LLCI = -.23, ULCI = .00												



# The Digital-Industrial Complex

Dirk Matten<sup>1</sup>, Mikkel Flyvverbom<sup>2</sup>

<sup>1</sup>Schulich School of Business, York University, Toronto, Canada, <sup>2</sup>Copenhagen Business School, Copenhagen, Denmark

## Introduction

- Referring to Eisenhower's coining of a 'military-industrial complex': "an **informal alliance** between a nation's military and the arms industry which supplies it, seen together as a **vested interest** which **influences public policy**."
- Digital-Industrial Complex (DIC): A group of companies (including part of companies) whose primary input resource is data. It creates value with goods and services based on a recombination of these data. The DIC can be thought of as a distinct industry with companies specifically dedicated to just the data aspect, but it is also part of virtually every other industry. The DIC has intricate, part open, part covert relations to governments and is related to governments by deep mutual interdependencies and mutual interests, some shared, some adversarial

## Research Questions

- What are the social implications of the Digital-Industrial Complex?
- How do these companies handle their responsibilities with regard to privacy, transparency and accountability?
- How do companies like Facebook, Google or Twitter interfere with the democratic process in liberal democracies, and what should be their commitments, constraints, and responsibilities?



## Methodology

### Data:

- Document Analysis
- Qualitative data collection
- Big Data:
  - Scale of data collection
  - Algorithmic combination of data
  - Almost exclusively controlled by private sector companies

### Three levels of analysis:

- Upstream (i.e., data generation)
  - Consent, Surveillance
- Manufacturing (i.e., data processing and aggregation)
  - Generation of metadata
- Downstream (i.e., data usage)
  - Privacy
  - Questionable applications (e.g. Snapchat)
  - Creation of the 'digital self' (Belk, 2013)

## Findings and Discussion

- 'Datacapitalism': change in the nature of firms (Davis 2016)
  - From careers to jobs (Uber: 2000 employees, 160.000 driver)
  - Income inequality
  - Philanthropy vs welfare state
  - Management culture ('move fast and break things')
- Regulatory oversight
  - US: Laissez faire
  - EU: Attempts at containment
  - China, India: state capture and control
- Industry Structure and Implications:
  - Very nature of the business makes monopoly the only successful market structure
  - With data as key resource, successful DIC businesses can only offer limited degrees of privacy, transparency, and accountability
  - The products of DIC companies have assimilated public goods, hence they are political in their core product governance (rather than side effects)
    - Free speech
    - Democratic processes
  - Hybrid forms of private governance so far have had limited success (ie Global Network Initiative)

## Take away message

- This is a new industry that changes our existing understanding of the nature and the boundaries of corporations
- The core values of this industry change our notions of basic values of liberal democracies, of what a corporation is, and what is the role of business in core functions of democratic societies?



Acknowledgements: We appreciate the support stemming from the Hewlett-Packard Chair in Corporate Social Responsibility



# Racialized Myth Markets and Stigmatized Consumers: Insights from a Multisited Ethnography of “Gypsies”

Ela Veresiu, Markus Giesler

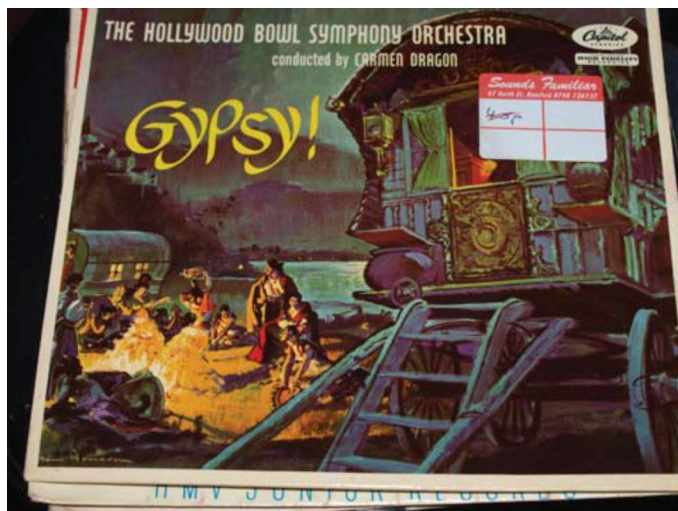
Schulich School of Business, York University, Toronto, Canada

## Introduction

- Previous consumer research has investigated the various strategies, practices, and performances different stigmatized consumer groups use in order to resist devaluing marketplace myths (Arsel and Thompson 2011) circulating throughout popular culture caricaturing their consumption communities.
- Overall, these studies demonstrate how mainstream commercial stories can disparage and degrade (rather than uplift and praise) non-mainstream consumer groups ranging from hipsters to East Germans to stay-at-home fathers to LGBTQ individuals to black middle-class Americans, which in turn, lead these consumers to defend, demythologize, and destigmatize their consumer choices and behavior.

## Research Question

- Are all stigmatized consumers in a position to defend themselves from marketplace stigma?



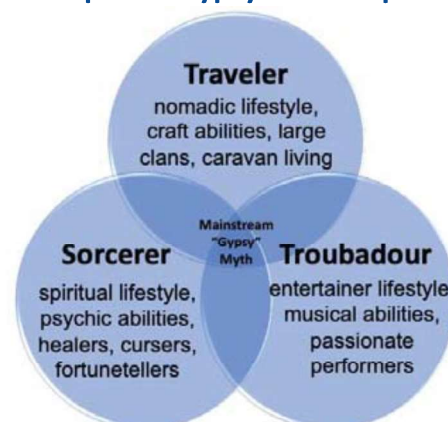
## Results

- We uncover a marketplace phenomenon where one of the most racially stigmatized consumer group worldwide, disparagingly called “Gypsies” but self-denominated as Roma, enact rather than resist dominant devaluing marketplace “Gypsy” myths to ensure their group’s economic survival.
- Specifically, we unpack the market-mediated race reiterations through which impoverished transnational Roma across Europe and North America further commercialize three Western mainstream marketplace myths about “Gypsies” (the Traveler, the Mystic, and the Troubadour) in what we conceptualize as a racialized myth market.

## Method

- **Ethnographic Data:** field notes, photos, videos, 41 in-depth interviews with Roma communities in Romania, Germany, and Canada
- **Historical Data:** expert materials, policy documents, mass media reports on Roma in Europe and North America
- **Marketing Data:** brand logos, entertainment products, advertising campaigns, other promotional materials using “Gypsy/ies” words and imagery in Europe and North America

Figure 1: Popular “Gypsy” Marketplace Myths



## Discussion

- By critically interrogating how a highly racially stigmatized consumer group enacts rather than resists dominant devaluing marketplace myths for economic survival, we contribute to the literatures on marketplace myths (see Arsel and Thompson 2011 for an overview), marketplace performances (see Üstüner and Thompson 2015 for an overview), and consumer acculturation (see Veresiu and Giesler 2018 for an overview).
- Our findings also extend the racial performativity argument about individuals becoming their own stereotypes by revealing poor consumers’ responses to mainstream devaluing marketplace myths of racialized otherness.

## Take away message

- We conceptualize **racialized myth markets** as experiential markets organized around the colonial gaze of the other and sustained through marketplace performances by the other that perpetuate problematic racial stereotypes and systemic inequalities.



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# How Language Shapes Cultural Success

Grant Packard<sup>1</sup>, Jonah Berger<sup>2</sup>

<sup>1</sup>Schulich School of Business, York University, Toronto, Canada <sup>2</sup>The Wharton School, University of Pennsylvania, Philadelphia, USA

## Abstract

- We show that aspects of language in cultural items (e.g. lyrics, poetry, scripts) can be used to predict the item's market success.
- **Project A ("Atypicality")** reveals that songs that are more lyrically differentiated (i.e., atypical) from their genres are more popular, an effect we attribute to the basic human need for novelty.
- **Project B ("Thinking of You")** reveals that songs and literature that use more second person pronouns (i.e., "you" words) are more successful as they activate a personal "other" in the audience's mind.

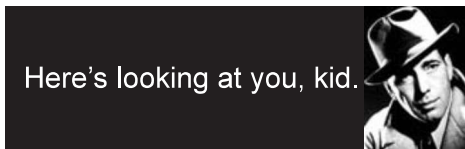
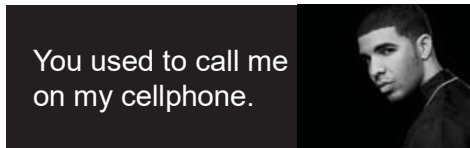


Image sources: imdb.com, pinterest.com, fanpop.com

## Research Questions

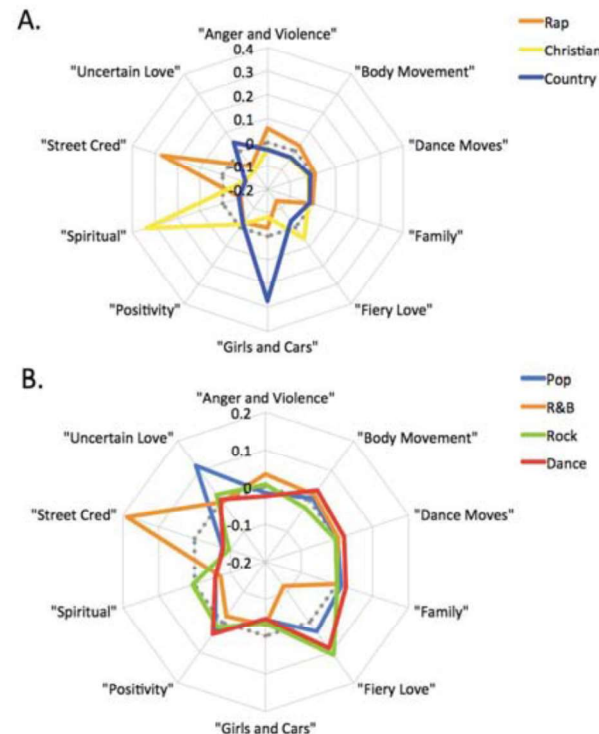
- Why do some cultural items (songs, literature, movies) catch on?
- Firms make huge investments, but what becomes a hit seems random.
- What basic human needs drive marketplace adoption of cultural items?
- Can we answer these questions using a combination of natural language processing, computational linguistics, and psychological theory and method?

## Method

- **Project A ("Atypicality")** analyzed the lyrics and other song attributes from over 4,000 songs ranked in the Billboard charts over 2014-16 using topic modeling (latent Dirichlet allocation; LDA) and regression.
- **Project B ("Thinking of You")** used the same field data set, analyzing it using a variety of NLP methods to identify the basic impact of second person pronouns accounting for a variety of controls and alternatives. Three laboratory experiments replicate the result and examine the causal mechanism and alternatives.

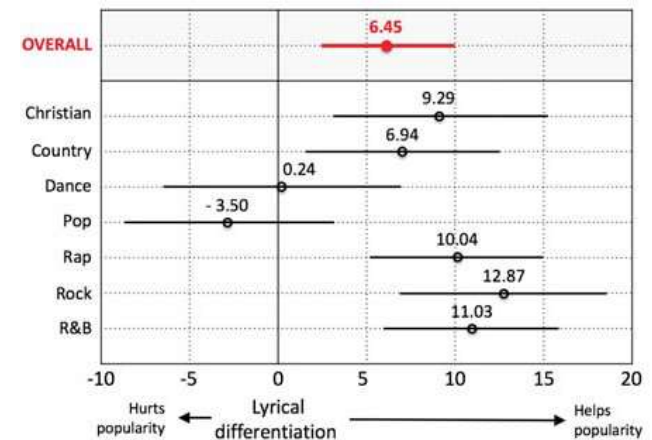
## Relative use of lyrical topics by genre

Genres with more (A) or less (B) topical entropy



## Results

- **Project A ("Atypicality")** finds that a 16% increase in lyrical differentiation is associated with a one-position gain in chart ranking.
- The effect is weaker where lyrics matter less (Dance) or differentiation matters less (Pop), and is robust to a variety of controls and alternatives.



- **Project B ("Thinking of You")** reveals that "you" words are positively linked to success and liking in music and literature
- The effect is moderated by the situated use of "you" as an other (object: "Shall I compare thee (you) to a summer's day") rather than as the protagonist his or herself (subject: "You better lose yourself").
- Activation of a personal "other" in the listener's own life drives the effect

## Conclusions

- Culture-makers may wish to consider how item language shapes popularity in the narrative arts (music, literature, movies, TV)
- We shed light on how language makes meaning, the psychological foundations of culture, and situated factors in language.

# A Blockchain-based Scheme for Voltage Regulation

Hjalmar K Turesson<sup>1</sup>, Henry Kim<sup>1</sup>, Shivam Saxena<sup>2</sup>, Aidan Brookson<sup>3</sup>

<sup>1</sup>Schulich School of Business, York University, Toronto, <sup>2</sup>Department of Electrical Engineering & Computer Science, York University, Toronto, <sup>3</sup>Toronto Region and Conversation Authority (TRCA)

## Introduction

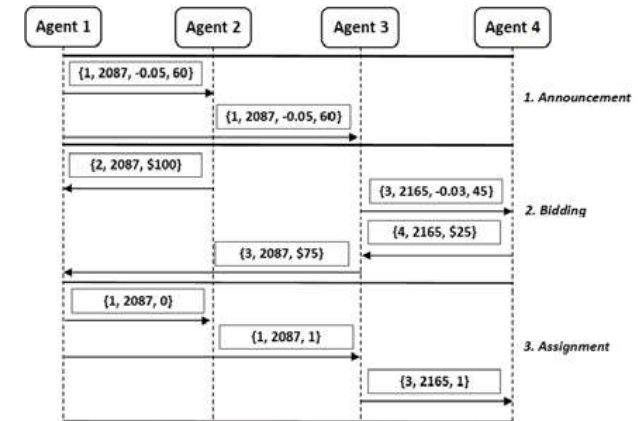
- Legacy power distribution networks are rapidly being transformed by the introduction of smart grids, characterized by a greater proportion of renewable distributed energy generation (DG).
- DGs increase efficiency, reliability and reduce harmful CO<sub>2</sub> emissions.
- However, due to the intermittent nature of wind and solar energy, energy from renewable DGs fluctuate, requiring voltage regulation.
- Here we present a blockchain-based energy trading scheme for voltage regulation in a network of agents, each controlling multiple DGs.
- Relying on a blockchain is critical since it is auditable and allows agents to engage in automated trading without requiring mutual trust.

## Method

- We used theoretical evaluation and simulations to develop the scheme and address three different scenarios. 1) Undervoltage and detection of a fraudulent transaction, 2) voltage mitigation via subcontract, 3) voltage violations in multiple zones.
- Simulations were run on Hyperledger Fabric, an industry-grade permissioned blockchain developed by the Linux Foundation.

## Results

- Agents are assumed to be self-interested, rational, and require economic incentive to provide voltage regulation as an ancillary service.
- Each agent controls a zone containing multiple DGs.
- To incentivize agents to follow protocol, and when necessary, curb their energy production, a reputation rating is introduced. By contributing to voltage regulation an agents rating decreases, positively affecting its revenue.
- Negotiations between agents occur according to the contract net protocol and are implemented as a smart contract, running on a permissioned blockchain.
- When an agent detects a voltage violation, it broadcasts a request on the blockchain. Other agents place bids, and after a set time, the lowest bid is assigned to the request. The agent's reputation rating weights the bids.
- Voltage readings, agent reputation ratings, requests and bids are stored on the blockchain, and assignment and verification are performed automatically by the smart contract.

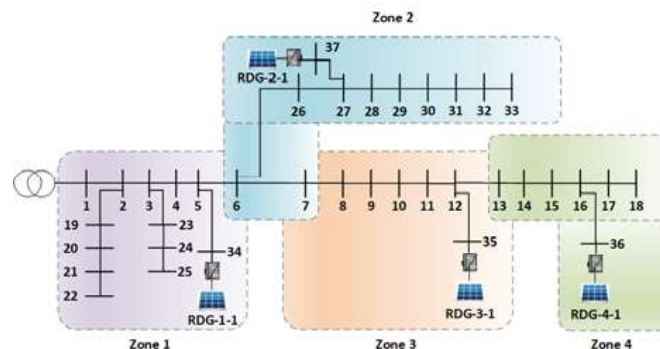


## Discussion

- By utilizing a permissioned blockchain for decentralized energy trading, it is possible to achieve a grid that is more efficient and robust in the face of the voltage fluctuations inherent to renewable energy source s such as wind and solar.
- This has the potential of benefiting both energy producers and consumers, as well as, facilitating the transition from fossil to renewable energy.

## Conclusions

- As energy generation is becoming more distributed and with a greater mix of renewable energy, the grid has to become more “smart” to adapt to the new conditions.
- Energy trading between agents controlling distributed energy generation capacity is a step in this direction.



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Project is funded by the Ontario Centres of Excellence



## Research Questions

- How can we build a smarter energy grid more adapted to a future of distributed energy generation?
- Can this grid be built without relying on a centralized third party for energy trading?



# Peeking into the Black Box of Infrastructure Investment: Understanding the Direct Infrastructure Investment Mandates of Large Institutional Investors

Sherena Hussain<sup>1</sup>, James McKellar<sup>1</sup>

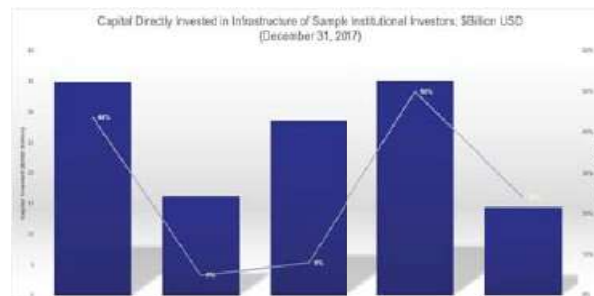
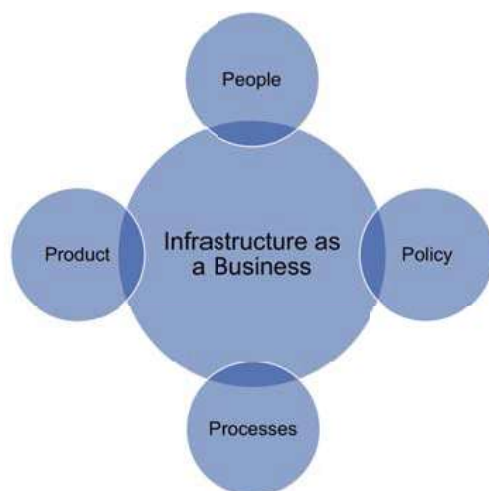
<sup>1</sup>Schulich School of Business, York University, Toronto, Canada

## Introduction

- Infrastructure continues to attract interest from large institutional investors (long-term investors including pension plans and insurance companies) as a separate asset class or part of a real asset class within investment portfolios.
- In the past decade there has been a significant expansion in capital raised and invested (as debt and equity) in global infrastructure.
- There has been a parallel expansion in the expertise and activity of direct infrastructure investment among large institutional investors, resulting in a reduction in the use of investment funds to invest capital on their behalf.

## Research Questions

- What are the investment strategies of large institutional investors that directly invest in infrastructure?
- How do large institutional investors create value for their beneficiaries through direct investments in infrastructure?
- What headwinds are potentially impeding institutional investments in large scale infrastructure projects?

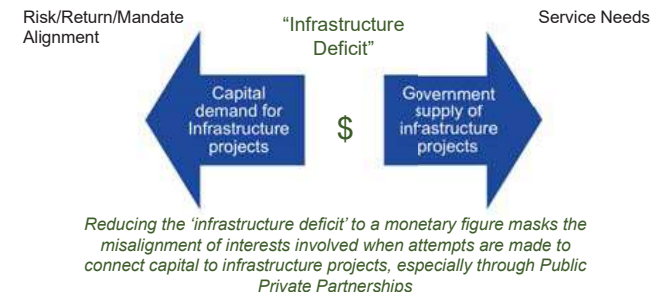


## Method

- Interviews were conducted with managing partners and leaders of global infrastructure investment teams at large public and private institutional investors from G7 countries that directly invest in global infrastructure.
- Interviewed institutional investors collectively invested \$129.2 billion USD in infrastructure and have over \$3 trillion USD AUM (as of 2017).
- Interviews were supplemented by secondary research evaluating investment mandates, infrastructure project profiles, asset management teams, and investment climates.

## Results and Impact

- Direct institutional investors increasingly view infrastructure as operating businesses rather than a passive source of cash flow.
- Greater competition among large funds to invest in infrastructure projects with attractive risk profiles has compressed investment returns, resulting in greater emphasis on developing distinguishable investment strategies.
- Investment strategies draw upon the perceived strengths of institutional investors that can include investments earlier in an infrastructure project's lifecycle.
- Public Private Partnerships (PPPs), while promoted by governments as a solution to delivering critical infrastructure, accounts for a small percentage of infrastructure portfolios among direct large institutional investors.



## Discussion

- The maturity of infrastructure as a perceived asset class has incentivized large institutional investors to craft competitive investment strategies.
- Strategies do not relate to raising capital; They relate to the deployment of capital in a manner that satisfies i) risk/return mandates, and ii) broader institutional goals.
- Developing strategies related to relationships, policy evolution, product offerings and internal and government policies, including regulatory and tax regimes, are key to managing infrastructure as successful businesses.

## Take away message

- Access to capital is no longer a competitive advantage for large institutional investors directly investing in global infrastructure projects.
- Investment strategies are crafted to draw upon an institution's long-standing advantages such as location premiums, operational capabilities, and qualified talent located in targeted markets.
- Large institutional investors are increasingly seeking to be involved earlier in the creation of infrastructure programs to facilitate the investment of private institutional capital. This may alter risk/return premiums globally.



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# Short Interest and Investment

Gustavo Grullon<sup>1</sup>, Yelena Larkin<sup>2</sup>, Alexei Zhdanov<sup>3</sup>

<sup>1</sup>Rice University, Texas, USA; <sup>2</sup>Schulich School of Business, York University, Toronto, Canada; <sup>3</sup>Penn State University, Pennsylvania, USA

## What is Short Selling?

- Short selling – betting on prices going down
- Short seller can profit from security declines even if he doesn't own it
- Short interest – amount of outstanding short selling positions

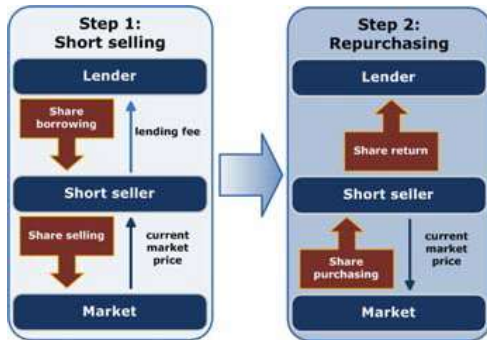


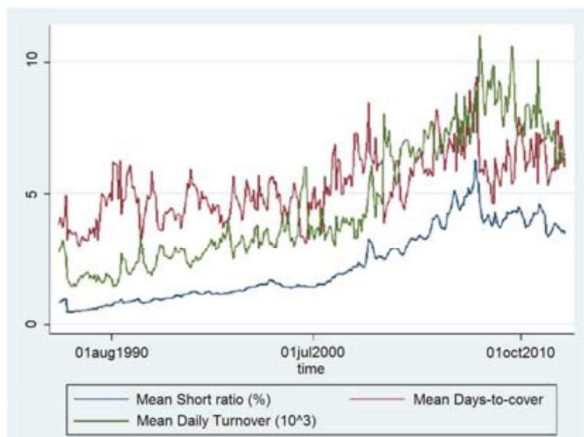
Image source: Wikipedia.org

## Research Questions

- Does short selling affect investment decisions of managers?

### Motivation:

- Existing literature shows that managers learn from financial markets
- Short selling activity has increased substantially over the past two decades (Hong et al. (2015) – see below):



## Method

- Estimate panel regression of investment ( $I$ ) of firm  $i$  in year  $t$  as a function of short interest ( $SI$ ) at  $t-1$ , as well as control variables:

$$I_{i,t} = \alpha + \beta SI_{i,t-1} + \delta X_{i,t-1} + \eta_i + v_t + \varepsilon_{i,t},$$

- Control for:
  - Size
  - Investment opportunities (Market-to-book)
  - Profitability
  - Firm and year fixed effects

## Results

- Short interest has a negative and statistically significant impact on future investments
- The results are robust to:
  - Alternative definitions of short interest
  - Alternative definitions of investment
- Endogeneity tests:
  - The impact of short interest is stronger after the passage of Reg SHO reform that has reduced short selling constraints

Table 1: Main results

	(1) Capex/PPE	(2) (Capex+R&D)/AT	(3) $\Delta(AT)$
M/B	6.253*** (0.369)	2.001*** (0.101)	9.017*** (0.445)
CF	0.338*** (0.028)	-0.017 (0.012)	0.146*** (0.030)
log(Assets)	-5.783*** (0.437)	-2.403*** (0.202)	-14.986*** (1.022)
SI/shares	-0.264*** (0.086)	-0.088*** (0.021)	-0.414*** (0.070)
N	68974	69100	69100
adj. $R^2$	0.33	0.69	0.23



Image source: Wall Street Journal

## Discussion

- The channel at work: managerial learning
- Short interest is a negative signal of future prospects
- The results are stronger when:
  - The firms are more opaque – more opportunities to learn
  - The short selling signal is more precise

## Take away message

- Managers do not know everything about their firms
- Financial market information can be helpful in understanding future investment opportunities
- Managers learn from short sellers' activity and adjust their investment accordingly



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Acknowledgements: Project was funded by SSHRC 2017 Insight Development Grant

# Devising Quantum Machine Learning Algorithms for FinTech Applications

Zhepeng (Lionel) Li, Wen-Yang Ku

Schulich School of Business, York University, Toronto, Canada

## Introduction

- Developing machine learning (ML) methods in Fintech encounters noisy and imbalanced data. The volume of data is sometimes insufficient to train complex learning models such as neural networks.
- Ensemble methods are widely adopted for data limitations in industry applications, but they focus either on improving the bias or the variance.
- We propose a novel hybrid quantum-classical machine learning (QCML) algorithm, aiming to address both the bias and the variance issues due to limited dataset.
- Our method proposes a combinatorial optimization problem for ensemble training, which is then solved with the quantum annealer, a unique type of quantum computer specialized for quantum optimization.

## Research Questions

- How do we devise a hybrid quantum-classical ML algorithm to improve current ML methods?
- When being used to tackle risk identification problem in FinTech applications, to what extent can it boost the business performance?

## The Quantum Advantage

Our method achieves faster training and better predictive accuracy than classical optimization methods by proposing a quantum algorithm running on real quantum computing device.

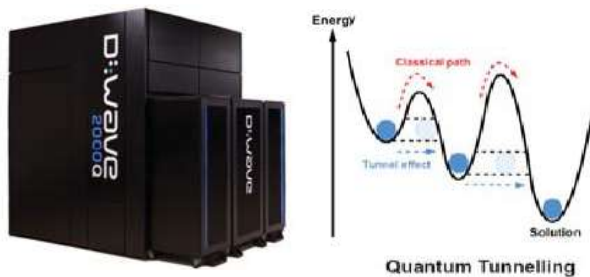


Figure 1: Quantum computing to address optimization problems

## Method

**Step One:** Construct a strong learner by solving a quantum optimization problem to select the optimal set of decision tree regressors as follows.

$$\mathbf{w}^* = \underset{\mathbf{w} \in \{0,1\}^N}{\operatorname{argmin}} \sum_{i=1}^M (\mathbf{w}^T \mathbf{f}(x_i) / N - y_i)^2, \quad (1)$$

where  $x_i$  and  $y_i$  are the  $i$ -th instance and the true label in the training set, respectively. The function  $\mathbf{f}(x_i)$  denotes the vector of the output from the  $N$

decision trees. The resulting strong regressor is therefore  $F(x_i) = \frac{\mathbf{w}^T \mathbf{f}(x_i)}{N}$ .

**Step Two:** Incrementally add more sets of weak learners to further improve accuracy. The algorithm is presented in Algorithm 1.

### Algorithm 1 The QCML algorithm

```
1: initialize  $h_i^{(0)} = 0$  for  $i = 1, 2, \dots, M$ .  
2: for  $k = 1$  to  $K$  do  
3:   Let  $y^{(k)} = -\partial L(\mathbf{h}^{(k-1)}) / \partial \mathbf{h}_i$ .  
4:   Construct  $N$  weak regression trees to predict  $y^{(k)}$ .  
5:   Construct ensemble learner  $F^{(k)}$  from the regression trees by solving Equation (1).  
6:   Let  $h_i^{(k)} = h_i^{(k-1)} + \eta F^{(k)}(x_i)$  for  $i = 1, 2, \dots, M$ .  
7: end for  
8: return  $F(x) = \sigma \left( \eta \sum_{k=1}^K F^{(k)}(x) \right)$ .
```

The performance of the proposed algorithm (i.e., QCML) comparing to the state-of-art machine learning algorithms are shown as below

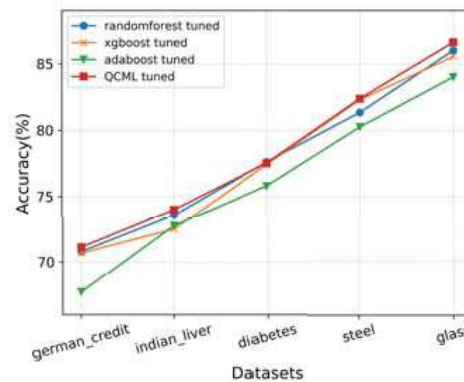


Figure 2: Average model accuracy after hyper-parameter tuning

## The Credit Loan Problem

We implement the proposed hybrid quantum-classical machine learning method to identify high/low risk borrowers for credit loan business. The goal is to decrease the default rate of high risk borrowers, thus to boost profitability.

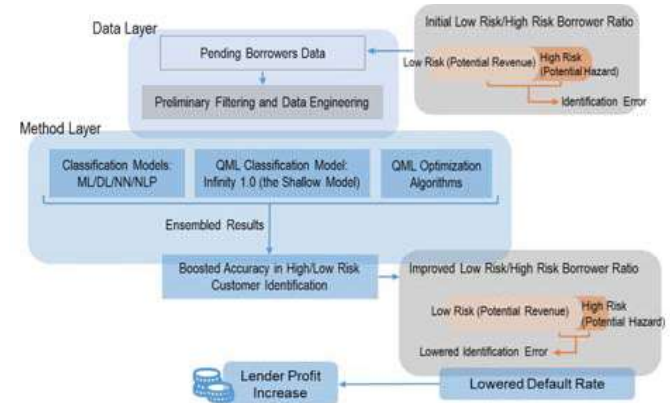


Figure 3: QML Optimized Risk Identification System

## Results and Findings

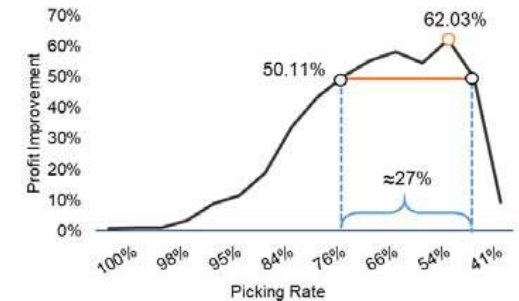


Figure 4: Profit Improvement over picking rates

Our approach has significantly outperformed the scoring system currently in use. Our model trades off between the number of eligible borrowers and their default rate. When it successfully improves identification accuracy, we can adjust this risk model in a wide range where business profit is lifted considerably. Our results show a plateau of performing area covering approximately 27% in the picking rates. The highest profitability improvement is by 62.03% at the picking rate of 53.78%.



# The Earnings 'Performance': From Ritual to Meaning

Matt Bamber<sup>1</sup> & Santhosh Abraham<sup>2</sup>

<sup>1</sup>Schulich School of Business, York University, Toronto, Canada, <sup>2</sup>McAfee School of Business, Union University

## Abstract

Employing extensive fieldwork data and drawing on theories of liminality, this article proposes a conceptualization of firms' results day earnings presentations as symbolically-mediated rituals of performance. We argue that these investor-manager meetings function as threshold-crossing devices, guiding a meaningful transition from a *before earnings* to an *after earnings* state. Analysis of our data shows that earnings presentations (re-)instate order during moments of information uncertainty and investment decision-making ambiguity. Furthermore, they function as ceremonies of closure. Management engage in these costly, unsettling, and disruptive calendrical rituals to achieve consensus around certain key themes among the *star-group*. We propose that our Turnerian-influenced conceptual framework can be usefully employed as an analytic lens to better understand similar interactive workplace encounters. In so doing, we make a case 'for meetings'.

## Research Questions

- Our study is motivated by two research questions:
  - First, we ask what motivates and incentivizes management to engage in these costly, unsettling, and disruptive events
  - Second, adopting an anthropological perspective, we address whether, and if so why, these ostensibly economic encounters are transformed into meaningful rituals of performance.

## Method

- We adopt an ethnographic (netnographic) data collection and analysis approach
- Observations of face-to-face results presentations, physically (17 companies) and virtually (<500 meetings)
- Interviews with key stakeholders, including:
  - 35 Senior Managers
  - 12 Investor Relations teams
  - 24 Analysts

## Results

- Earnings presentations function as performance rituals, and function as liminal encounters.
- Throughout the event, the audience is encouraged to cross various physical and psychological thresholds.
- The intended result on the part of the management team is to bring the assembled analysts to a position of consensus.
- Management recurrently and repetitively engage in key rituals of closure and order.

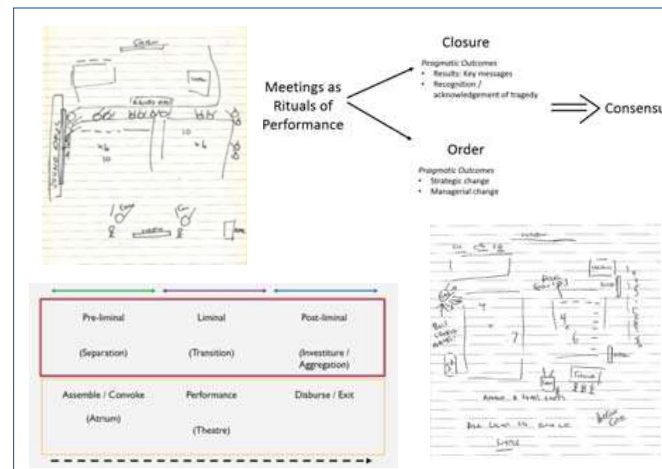


## Discussion

- Liminality is a useful analytic lens to better understand the nature and purpose of face-to-face meetings
- Investor-manager encounters are frequently studied through a narrow neo-classical economic lens, but this ignores their social and political purposes.
- For management, the potential costs of engaging in these unsettling encounters is that they can be transformatively persuasive performance rituals.
  - In a world where analysts' research matters, and consensus amongst analysts is highly desirable, these threshold-crossing events are significant.

## Take away message

- We challenge the dominant view in the literature which holds that public meetings are symbolic rituals, with scant real or pragmatic outcomes.
- Whilst this might be true in some cases, meetings such as results presentations are meaningful, and appear to represent management striving to establish a consensus around a set of self-designed key messages.
- Furthermore, management engage in key rituals of closure and order.



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# Generous Spirits: Sacred Economies, and the Upscaling of Canadian Whisky

Hovig Tchalian<sup>1</sup>, Maxim Voronov<sup>2</sup>

<sup>1</sup>Peter F. Drucker and Masatoshi Ito Graduate School of Management, Claremont Graduate University, Claremont, California, USA <sup>2</sup>Schulich School of Business, York University, Toronto, Canada,

## Introduction

- Human experience is increasingly commercial and impersonal. Even intimate spaces like our homes and cars are available for commercial use by Airbnb and Uber. In response, people desire more sacred experiences. Products, like “craft beer” and grass-fed beef, and so on, capitalize on the concept of craft to elevate the act of consumption from a merely commercial transaction to a sacred exchange.
- We argue that the successful positioning of a brand or product category as “craft” requires *category consecration*, via management of boundaries, and content of the category through material and symbolic tools.

## Research Question

- What social and material practices do organizations employ in consecrating low-status categories as upscale “craft” ones?
  - Put differently, how can commercial ventures like whisky distillers infuse the ennobling spirit of craft into a clearly commercial product category?



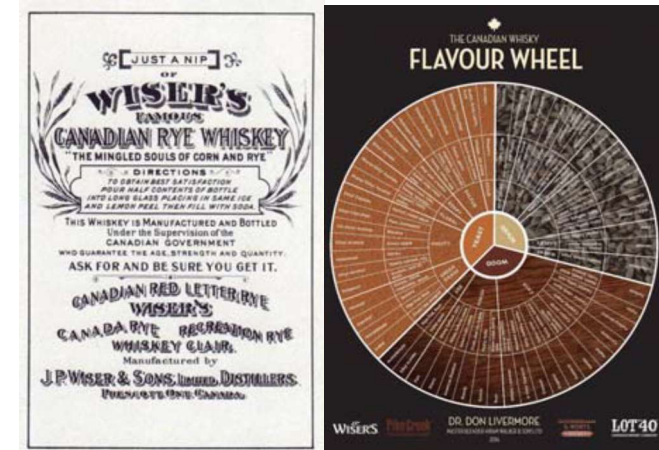
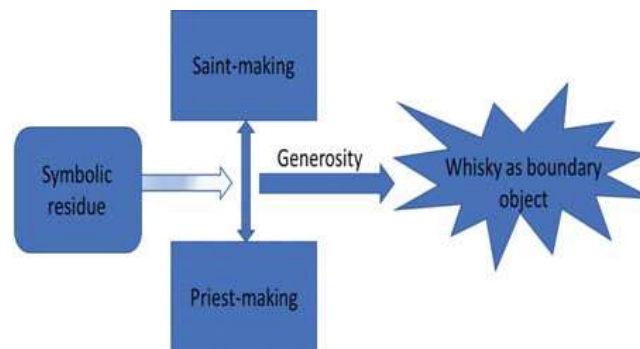
## Method

- Canadian whisky industry among the oldest (starting in 1700s) and most distinctive whisky segments. Failed to respond to upscaling moves by rival whisky producing regions, resulting in reputational damage and low status.
- We examine the efforts of Canadian whisky producers to elevate Canadian whisky from a low-status “budget” category to a high-status craft product category.
- Inductive qualitative study: 2015-present: 90 interviews; 300 hours of observations; documents; media coverage.

## Results

- Generosity:** Whisky tradition and expertise embodied in products that are sacred texts.
- Saint-making:** Whisky makers sacrifice for their craft and for a community of devout followers.
- Priest-making:** Creating valued connoisseur identities for those who can interpret and evangelize for whisky.
- Boundary object:** Whisky builds relationships: producers to consumers; consumers to consumers; consumers to history and culture.

### Whisky as a sacred gift



## Discussion

- Placing a brand within the craft category places it within a process of sacred exchange.
- Important to study organizations organize their activities, methods and practices, not just how they talk about them.
- We open inquiry into neo-sacred economy: producers and consumers seek to elevate economic exchanges as virtuous and socially good.

## Take away message

- “Craft” is not an objective term. The way we think about ‘craft’ is the result of a long and deliberate process of making it so. That process is value-driven and cannot be dissociated from its commercial motives.
- Appropriating prestige from high-status categories primarily through rhetorical claims is insufficient. Our research suggests that consecrating a category like whisky is not the result of rhetorical reconstruction, or talk, alone; it is the result of a more fundamental change in the relationship between commercial and social practices.



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Acknowledgements:

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# Disentangling the Impact of Indirect Network Effects on Platform Growth

Ramya K. Murthy, Moren Lévesque, Anoop Madhok

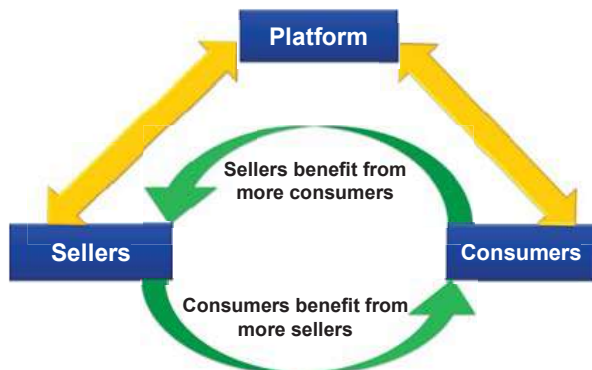
Schulich School of Business, York University, Toronto, Canada

## Introduction

- In 2018, **seven of the top 10** firms were platform-based businesses like Amazon, Facebook, with a market cap of **\$4.7 trillion**
- Indirect network effects are the engines for platform growth and arise when actors on one side of a platform (e.g., consumers) benefit from the size and characteristics of the other sides of the platform (e.g., sellers)
- Indirect network effects can be asymmetrical
  - For newspaper platforms, advertisers benefit from more readers but readers do not always benefit from more advertisers
- Little scholarly attention has been paid to the symmetry of indirect network effects and how it influences platform growth

## Research Questions

- How do asymmetric indirect network effects influence platform growth?
- How do the relative levels of membership benefits and usage benefits influence platform growth in cases of symmetric and asymmetric network effects?



## Indirect Network Effects

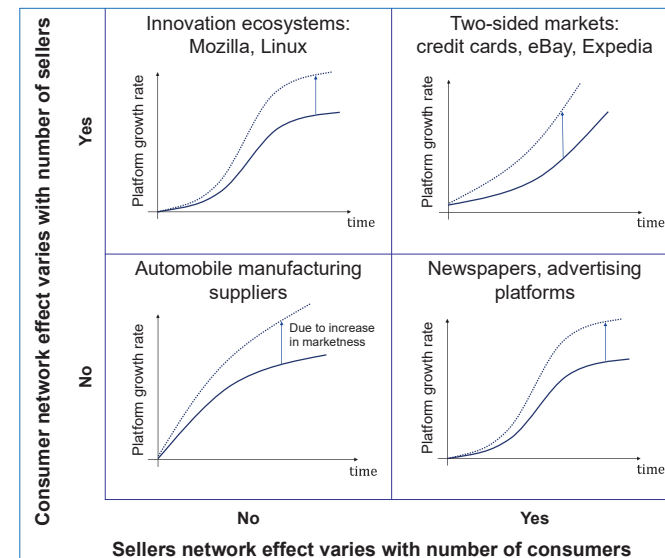
## Method

- We use mathematical modelling and logic to identify tradeoffs and key relationships, accompanied by theory of network externalities to substantiate model assumptions and explain model implications

Consumer network effect varies with number of sellers	Yes	Innovation ecosystems: Mozilla, Linux 	Two-sided markets: credit cards, eBay, Expedia 
	No	Automobile manufacturing suppliers 	Newspapers, advertising platforms 
		No	Yes
		Sellers network effect varies with number of consumers	

## Results

- Platform growth trajectories depend on the symmetry of indirect network effects
  - Symmetric indirect network effects increase the growth rate
  - Asymmetric indirect network effects correspond to an S-shaped growth trajectory
  - No indirect network effects diminish the growth rate
- Indirect network effects are impacted by the level of marketness – a proxy for the relative levels of membership benefits (value from availability of other actors) and usage benefits (value from transacting with other actors)
- Growth rates increase with higher marketness levels if usage benefits exceed membership benefits for at least one of the platform sides



## Discussion

- The influence of indirect network effects on platform growth depends on its directionality and symmetry
- Marketness of a platform can be used as a tool by the platform sponsor to augment or diminish the platform growth rate
- Platform sponsors' strategies should be aligned with the platform's position on the growth trajectory and the corresponding time thresholds

## Take away message

- Platforms differ in the underlying dynamics of indirect network effects and thus have different growth trajectories
- Irrespective of the underlying dynamics, marketness can augment (or diminish) the growth rate when at least one side derives more (or less) usage benefit than membership benefit



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# Discovery vs. Repositioning: An Empirical Study of Time Allocation Contingencies in Drug Development

Annapoornima M. Subramanian<sup>1</sup>, Moren Lévesque<sup>2</sup>, Vareska Van De Vrande<sup>3</sup>

<sup>1</sup> Faculty of Engineering, National University of Singapore, Singapore, Singapore, <sup>2</sup> Schulich School of Business, York University, Toronto, Canada,

<sup>3</sup> Department of Strategic Management & Entrepreneurship, Rotterdam School of Management, Rotterdam, The Netherlands

## Introduction

- Bringing a drug from invention stage to pharmacy shelves costs an estimated **\$2.7 billion**
- **90%** of new drugs in development worldwide do not reach the market because they are either unsafe or ineffective
- The industry recognizes the added value of drug repositioning (a.k.a. repurposing or reprofiling) as an alternative
  - Repositioned drugs must pass clinical tests for efficacy, but not safety, although safety concerns account for **30%** of drug failures
  - They require **1/2** the time and **1/3** of the cost to develop

## Research Questions

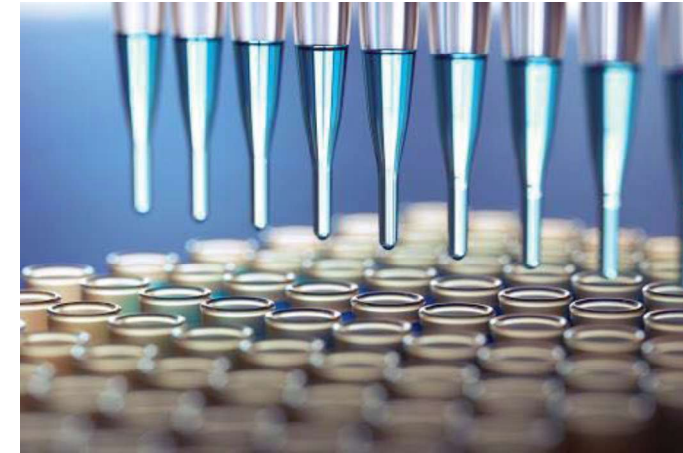
- With repositioned drugs accounting for **30%** of all drugs approved in a year and **three to four** drug repositioning firms emerging every year to reap the benefits
  - What is the ideal time ratio for exploring new drug discoveries vs. exploiting and repositioning existing drugs?*
- Literature remains silent on the ideal balance between exploration and exploitation activities, and how much time firms should allocate to the two competing activities

## Method

- Mathematically model and empirically test how firms *should* and actually *do* allocate time to exploring a new drug discovery project, beyond which the project is discontinued so that time is better spent on exploiting previously approved drugs for repositioning
- Hypothesize how the exploration-exploitation balance may be impacted by changes in:
  - Number of existing approved drugs available for exploitation
  - Emergent nature of the explorative activity
  - Firm's level of aversion to risk
- Test the hypotheses on a sample of 1,382 new drug-development projects in biotechnology and pharmaceutical firms worldwide

## Results

- The larger a firm's launched drug portfolio is, the shorter is the discontinuation duration of the explorative drug discovery project
- The explorative drug discovery project's discontinuation duration has an inverted U-shaped relationship with that project's emergence level
- Regardless of the emergence level of the explorative drug discovery project, the relationship between a firm's risk-aversion level and the project's discontinuation duration is positive, such that a high risk-averse firm has a longer discontinuation duration than a less risk-averse firm



## Discussion

Policymakers should:

- Incentivize firms to persist on developing high-risk emergent drugs such as those for rare diseases also known as orphan drugs
- Develop incentives and other programs that promote industry and academia collaboration, especially for firms with large portfolios of previously discontinued drugs
- Develop initiatives that give access to patient information, as increasing the transparency and information channels between patients, doctors, and biotechnology and pharmaceutical firms could help make drug repositioning even more attractive

## Take away message

In the drug development context, the best balance between exploration and exploitation is not necessarily the recommended 50-50 split, but it is contingent on project- and firm-level characteristics

# 50/50?



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White background images used with kind permission of Drug Discovery World

# Towards a Theory of Strategic Insurgency: From Disruptive Innovation to Entrepreneurial (Dis)advantage

Moren Lévesque<sup>1</sup>, Aurora Liu<sup>2</sup>, Richard Arend<sup>3</sup>

<sup>1</sup>Schulich School of Business, York University, Toronto, Canada, <sup>2</sup>University of Massachusetts, Amherst, MA, USA, <sup>3</sup>Independent, Kansas City, MO, USA

## Challenge We Address

- Identify sources of firms' competitive advantage in the modern era of disruptive innovation
- From Industry Positioning:
  - Incumbents out-compete their rivals by specializing in industry areas with attractive market forces to define the competitive field *status quo*
- From Dynamic Capabilities View:
  - Through agility in resource deployment in high-velocity environments, new entrants can win by developing insurgent capabilities to disrupt the *status quo*

## Research Question

- Under what conditions will insurgents with *status-quo*-disrupting capabilities win against incumbents with *status-quo*-defining powers?
- Disruptive innovation puts pressure on:
  - Incumbents*, as it can render the *status-quo*-defining powers obsolete
  - Insurgents*, as developing the *status-quo*-disrupting capabilities is often an expensive exercise with no promise on return
- Theories of competitive advantage fall short in answering whether disruption leads to entrepreneurial advantage or disadvantage



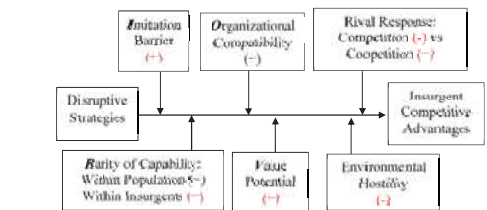
## Method

- Consider the disruption- and competition-specific characteristics that delineate firm performances
  - Value potential, rarity, imitation barriers, and organizational compatibility (or VRIO) of insurgent disruptive capabilities
  - Incumbents' competitive or cooperative actions to preserve the *status quo*
- Use a game theoretic framework for interfirm competition
- Build a simulation model that varies incumbent rivalry responses and the degrees of VRIO of insurgent disruptive capabilities

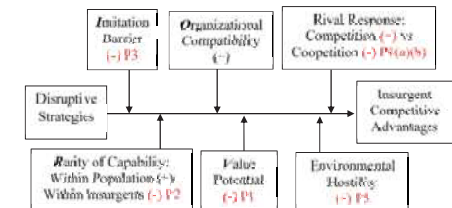
## Results

- Insurgents are **more likely to out-compete** incumbents with *status-quo*-disruptive strategies when:
  - Disruptive innovation yields low value potential (P1)
  - Disruptive innovation capabilities are not rare within the insurgent population (P2)
  - Imitation barrier of innovation is low (P3)
  - Rival responses are competition-driven (P4a)
  - Environmental hostility is high (P5)
- However, when rival responses are co-competition-driven, insurgents are **less likely to out-compete** incumbents with *status-quo*-disruptive strategies (P4b)

## Extant vs emergent contingency models of strategic insurgency



(a) Extant model based on stylized facts



(b) Emergent model from stimulation findings

Note: red font indicates disagreements between findings and stylized facts

## Discussion

- Offer novel insights towards a theory of strategic insurgency to depict how disruptive innovation leads to firm competitive (dis)advantages
- Address a key challenge in theorizing entrepreneurial (dis)advantage in the disruptive innovation era
  - Identify the disruption- and competition-specific conditions that delineate comparative firm performances between incumbents and insurgents

## Conclusion

- While some findings agree with extant views, others challenge received wisdom in the literature
- Contribute by contextualizing the central thesis of the classic Industry Positioning and Dynamic Capability Paradigm in the age of disruption



Acknowledgements: We gratefully appreciate the financial support of  
The CPA Ontario Chair in International Entrepreneurship

# Longevity Insurance for a Biological Age

Moshe A. Milevsky<sup>1</sup>, Various students and co-authors<sup>2</sup>

<sup>1</sup>Schulich School of Business, York University, Toronto, Canada, <sup>2</sup>York University

## Introduction

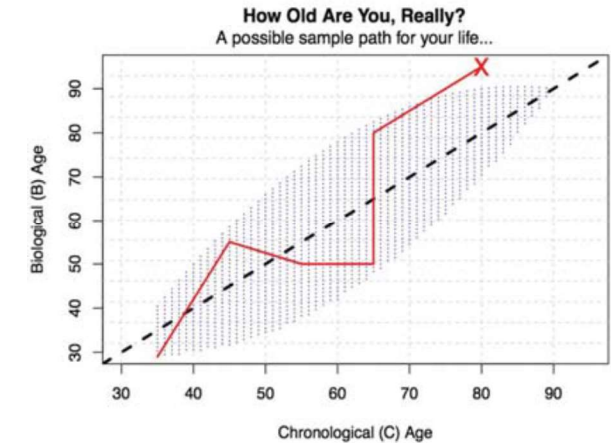
- Conventional finance theory, and in particular the classical life-cycle model of investment, saving & consumption, assumes that (i.) age and (ii.) time march in complete lockstep. If you are 45 years-old today, then in 20 calendar years you will be 65 years-old.
- But different people age at different rates, and recent bio-demographic evidence (e.g. using telomere length) suggests your true **biological age** can differ by as much as 10 to 15 years relative to your chronological age.
- This is another way of thinking about mortality heterogeneity.
- For example, in times of epidemics (e.g. the 1918 Spanish Flu) and depending on what country you live in, a (local) 30 year-old can have the same life expectancy as a (global) 70 year-old.

## Method

- This research is interdisciplinary, multi-faceted and part of a larger agenda to investigate best-practices for retirement income planning.
- The first step is **statistical & actuarial**, focused on estimating the dispersion between B-Age and C-Age, in various countries and within demographic groups. Namely, we examine the bio-markers of aging.
- The next step is to **mathematically** model the process of aging, within a framework that can be imported into traditional **economic** models.
- The final step is to derive **financial** predictions about how (rational) people behave when they have access to information about their B-Age.

## Results

- Implementing the lifecycle model (i.e. a proper financial plan) requires knowledge of both Biological Age and Chronological Age.
- The age at which you retire, start your pension (e.g. CPP) and begin drawing down your nest egg, should account for your Biological Age.
- Your asset allocation and the type of longevity insurance products you own (e.g. annuities and tontines) should depend on Biological Age.



## Research Question

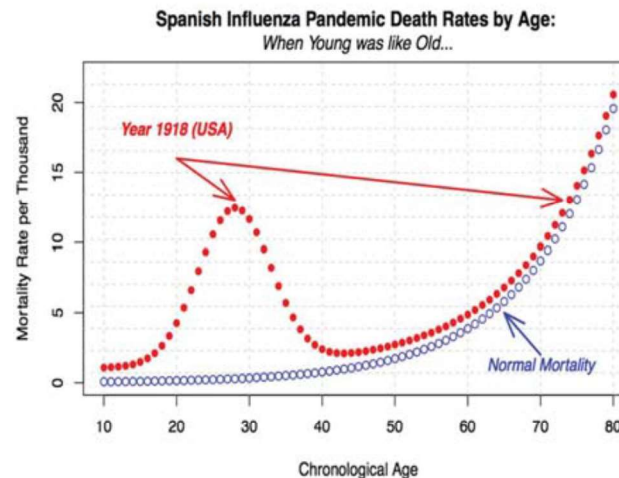
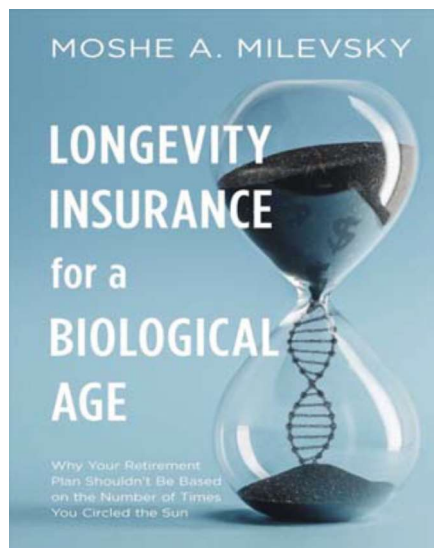
- There are a number of immediate implications for the field of household finance, namely (i.) retirement pension policy, (ii.) investment asset allocation strategy, and (iii.) optimal product design. How are they impacted by the fact that you have **two ages**?

## Larger Discussion

- One can make a strong argument that CPP (and other government pension) claiming ages should be based on Biological Age, not your Chronological Age. If you are 65 chronologically, but as young as 50 biologically, should you be entitled to income for the rest of your life? Can governments afford it? Vice versa, if you are (only) 55 chronologically, but as old as 70 biologically, should you have to wait a decade to start the pension. Is that fair? Think of the transfer effect.

## Practical Implications

- Regardless of whether governments around the world ever adopt B-Age “thinking” for pension policy purposes, individuals should look beyond their chronological age when making retirement planning decisions. One day – think wearable technology that updates us in real time -- we will identify ourselves by our B-age, not C-age.



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Acknowledgements: Financial Support from the U.S. Society of Actuaries and The IFID Centre.  
Research Assistance from Batur Celik and Victor Le, both students at Schulich.



# Historic Corporate Social Responsibility

Judith Schrempf-Stirling <sup>1</sup>, Guido Palazzo <sup>2</sup>, Robert A. Phillips <sup>3</sup>

<sup>1</sup> University of Geneva, Geneva, Switzerland, <sup>2</sup> University of Lausanne, Lausanne, Switzerland, <sup>3</sup> Schulich School of Business, York University, Toronto, Canada

## Introduction

- Increasingly, corporations are held responsible for activities in their value chain extending beyond their traditional corporate boundaries. How can current managers face these critiques and how does the past affect the legitimacy of current business?
- We examine the interaction between the legitimacy of historic CSR claims and corporations' reactions to these claims.
- The resulting contest of narratives between corporations, critics and society over past actions and their current interpretation potentially affects the legitimacy of the corporations themselves.

## Research Questions

- What is the **theoretical basis** for holding a corporation responsible for decisions made by prior generations of managers?
- What is the **process** by which such claims are raised and contested?
- What are the **relevant features** that render a charge of historical harm-doing more or less legitimate in the current context?
- How does a **corporations response** to such charges affect the intensity of the future narrative contests and its own legitimacy?

## Results and Impact

- Other things being equal, lesser institutional pressure and greater perceived discretion in the past increase perceptions of claim legitimacy.
- Independent of claim legitimacy it seems that a communicative/open contest usually proves to be of greater benefit to the company.
- The inclusion of historians to analyze a company's legacy alongside a recognition of a past action can at very least separate future events from a troubled past.



## Method

- We begin with the building blocks of CSR & socially constructed legitimacy, with a brief defense of corporations as intergenerational moral actors and, hence, conceptually apt subjects of such responsibility.
- We then present our theory of historic CSR, including the problematization of the corporate past and the interactions between the legitimacy of the claims about the past and the corporate engagement in present narrative contests.
- Lastly, we elaborate on implications of historic CSR for managers and scholars.

Table 1: Effects of claim legitimacy and corporate engagement

Legitimacy and Level of Engagement	Type of Contest	Future Intensity of Contest	Effect on Corporate Legitimacy	Example
Limited claim legitimacy/ limited corporate engagement	Latent	Decreasing	Modest	IBM and Nazi Germany
High claim legitimacy/ high corporate engagement	Communicative	High but moderating	Increasing	Volkswagen and Nazi Germany
High claim legitimacy/ limited corporate engagement	Hostile	Increasing	Decreasing	Monsanto and Agent Orange
Limited claim legitimacy/ high corporate engagement	Open	Decreasing	Increasing	Chiquita and Latin America

## Discussion

- Organizational scholars discuss legitimacy mainly as a property of (private) organizations, whereas political scientists examine the legitimacy of (public) regulatory regimes.
- Recently both debates have been brought together in the debate on political CSR.
- These scholars have argued that globalization shifts power to private actors who start to assume responsibilities that previously were seen as public or governmental responsibilities, such as the protection of human rights.
- What is the legitimacy of these private solutions?

## Future Research

- Responsibilities of critics in problematizing and contesting corporate historical narratives.
- The role of medium as a factor in perceived legitimacy, corporate engagement and narratives [e.g. arts, religious bodies, government laws]
- The individual's complicity in historical injustices
- A focus on emerging issues (e.g., environmental sustainability and human rights abuses) and the organizational and managerial legacies being created today.

## Take away message

- As powerful actors, existing in perpetuity, corporations today bear responsibilities resulting from the decisions and actions of past leaders.
- Historians have a key role to play in clarifying both the actions taken by the legacy companies and the "chain of custody" of responsibility for past actions.
- Managers today would do well to consider how their decisions will affect their own and the organization's legacy.



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# Supersize My Chances: Promotional Lotteries Impact Product Size Choices

Nükhet Taylor<sup>1</sup>, Theodore Noseworthy<sup>1</sup>, Ethan Pancer<sup>2</sup>

<sup>1</sup>Schulich School of Business, York University, Toronto, Canada, <sup>2</sup>Sobey School of Business, Saint Mary's University, Halifax, Canada

## Introduction

- Many companies annually launch promotional lottery campaigns, where consumers are given a chance to win a prize with each purchase.
- For example, Tim Hortons' *Roll-Up-The-Rim* campaign gives explicit odds of a 1 in 6 chance to win, with the prizes ranging from a hot beverage to a new car.
- Although the chances of winning is objectively the same across offerings, a recent article in the Huffington Post suggests that consumers are purchasing larger products (or 'supersizing') during Roll-Up-The-Rim campaign (Yum, 2013).

## Hypotheses

- Consumers will be more likely to purchase the largest product alternative (i.e., supersize) during promotional lottery campaigns than otherwise.
- Supersizing is a means of elevating the perceived chances of winning the desirable, but elusive, grand prize.

Imagine that you are at a Tim Hortons, about to purchase a cup of coffee.

Which cup size do you select?



Our research shows that consumers are 16.4% more likely to select the X-large cup during Roll-Up-The-Rim.

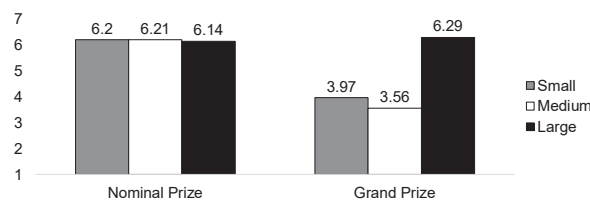
## Methodology

- Four main studies ( $N = 893$ ) and four supplementary studies ( $N = 592$ ) explored the supersizing phenomenon.
- The studies used real brands (Tim Hortons, Starbucks, Lays), and included participants from different geographical regions (Canada, United States).
- Participants made product size selections either during a promotional lottery campaign or during a time when promotional lottery campaign was not active.
- Participants rated the perceived likelihood of winning either a grand or a nominal prize (anchored: 0 = *not likely at all*, 11 = *very likely*).

## Results

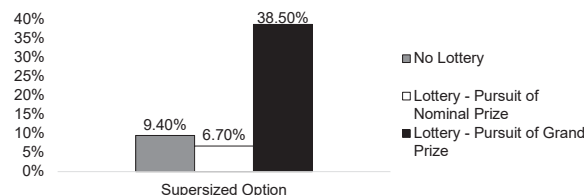
- Promotional lotteries led to an average increase in supersizing of 16.4% (95% CI: 8.84, 24.03).
- Participants perceived a greater likelihood of winning with the supersized option for the grand prize ( $p < .001$ ), but not the nominal prize ( $p < .97$ , see Table 1).

Table 1. *Perceived Likelihood of Winning as a Function of Product Size*



- Consumers were more likely to supersize when pursuing a grand prize than a nominal prize ( $\chi^2(1) = 13.48, p < .001$ ), and than when there was no promotional lottery ( $\chi^2(1) = 12.19, p < .001$ , see Table 2).

Table 2. *Choice Percentage of the Supersized Option as a Function of Prize Pursuit*



Our research shows that consumers' interest in the grand prize may nudge them to supersize their orders during Roll-Up-The-Rim campaign.



## Discussion

- Promotional lotteries account for over \$1.8 billion in annual marketing expenditures (Smith, 2009).
- Considering that many promotional lotteries occur in a food context, supersizing more during lotteries could be contributing to obesity rates.
- More research is needed to explore whether changing the structure of promotional lotteries can ameliorate this tendency.

## Conclusions

- Given that the odds of winning the grand prize is extraordinarily small, it is not surprising that people look to cues that they believe influences the outcomes beyond their reach.
- Supersizing allows consumers to cope with the insurmountable odds associated with the desirable grand prize.



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# Does the Deferential Black Man get to Lead?

Camellia Bryan (Organization Studies), Chris Bell

## Introduction

- Deferential behaviour signifies an awareness of hierarchy (Brescoll, 2011)
- Black men who exhibit dominant behaviour, such as bragging, experience significant reprisals (e.g. lower compensation) from the dominant community (Hall & Livingston, 2012).
- It is important for the less powerful to show deference towards others, signifying that they are contained and recognize their role in society (Goffman, 1956).
- Although research has examined behaviour that is detrimental for black male leaders (i.e. agentic), there still remains a lack of knowledge on the behaviour that garners advantage for them (i.e. deferential)

## Research Questions

- **How do people react to Black men who exhibit deferential behaviour towards dominant racial group members in comparison to other Black men?**
- **How do people react to Black men who exhibit assertive behaviour towards dominant racial group members in comparison to other Black men?**



## Methodology

- Undergraduate business students (N = 323) were randomly assigned to one of four conditions: (1) Black men showing deference towards Deferential White men, (2) Black men showing assertiveness towards Deferential White men, (3) Black men showing deference towards Assertive White men, (4) Black men showing assertiveness towards Assertive White men
- All subjects evaluated same-race interactions of Deferential Black men, Assertive Black men, Assertive White men, and Deferential White men as baseline measures.

## Results

- Black men who showed deference towards White men (M= 2.60, SD= 0.71) were given significantly higher ratings of expected career position than Black men who showed deference towards other Black men (M=2.16, SD= 0.80)  $p < 0.001$ .
- Black men who showed deference towards White men who showed deference (M= 3.7, SD= 0.8) were rated as deserving significantly more power than White men who showed deference towards Black men who showed deference (M= 3.37, SD= 0.9)  $p < 0.001$
- White men who showed deference towards Black men (M= 2.24, SD= 0.86) were given significantly lower ratings of expected career position than White men who showed deference towards other White men (M= 3.4, SD= 0.79)  $p < 0.001$
- Black men who showed assertiveness towards other black men (M= 3.64, SD= 0.77) were rated significantly more likely to advance in their career than white men who showed assertiveness towards other white men (M = 3.36, SD = 0.78),  $p < 0.001$

## Discussion

- A preference for deferential black male leaders may serve to reinforce existing status hierarchies within society. People respond to acts of deference, such as constricted body language, with dominant behaviour (Tiedens & Fragale, 2003).
- It may be cognitively taxing for black men to continuously engage in these self-impression management strategies.
- This work highlights the different path that they must undertake as they work to step over the obstacles in their way

# Creditors' Rights, Debt Capacity and Securities Issuance: Evidence from a Natural Experiment

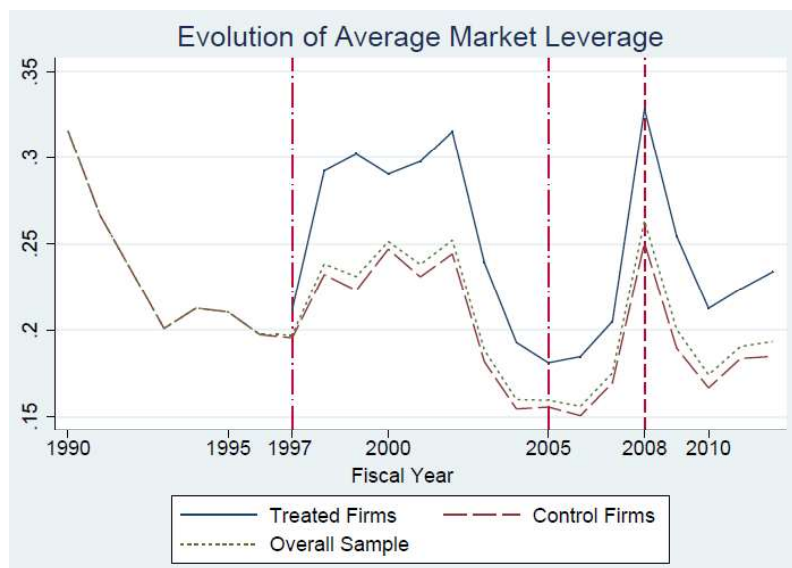
Daniel Tut, Ph.D. Candidate (Finance)

## Introduction:

- What are the effects of [stronger creditors' rights protection](#) on firms' financing choices and securities issuance?
- Extant Literature:** Cross-country studies generally yield [inconsistent](#) results:  
**See:** [\(+\)](#){La Porta (1997,1998), Acharya et al 2011}, [\(-\)](#){Vig (2013), Liu et al 2018}
- This Study:** Exploits staggered adoption of anti-recharacterization laws by [seven U.S states](#) {TX, AL, NV, LA, VA, DL, SD} - between 1997 and 2005.
- These laws protect creditors from [Ch. 11 automatic stay clause](#) => Swift seizure of collateral during bankruptcy/financial distress

## Hypothesis:

- H1:** Anti-recharacterization laws are positively related to debt capacity
- H1[b]:** Anti-recharacterization laws affect firms debt maturity
- H2:** Anti-recharacterization laws are positively related to debt issuance
- H3:** Anti-recharacterization laws are negatively related to equity issuance



## Methodology:

- Data:** Compustat North-America: U.S Firms, Sample Period: 1990-2012
- Identification Strategy:** [Difference-in-difference](#): Compare firm's debt financing and securities issuance before and after the state adoption of anti-recharacterization laws

## Results:

- Debt Capacity:** Firms on average increase leverage after the passage of the laws
- Debt Maturity:** Firms substitute costly short-term debt financing for long-term debt financing after the passage of the laws
- Securities Issuance:** Firms increase debt issuance and decrease equity issuance after the passage of the laws => Significant utilization of debt financing over equity
- Results on securities issuance are more [pronounced](#) for active issuers than for passive issuers

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Leverage	LT_Debt	ST_Debt	Debtiss	Equityiss	ActiveDebtiss	ActiveEqiss	EquityRep
Laws	0.0127* (1.75)	0.00601* (1.73)	-0.00452* (-1.93)	0.0189* (1.66)	-0.0264*** (-2.94)	0.0522* (1.70)	-0.103*** (-4.43)	0.00870*** (5.82)
Firm Controls	YES	YES	YES	YES	YES	YES	YES	YES
Firm F.E	YES	YES	YES	YES	YES	YES	YES	YES
Clustered Std Errors	YES	YES	YES	YES	YES	YES	YES	YES
Year F.E	YES	YES	YES	YES	YES	YES	YES	YES
N	103,649	96,890	96,890	47,304	94,952	14,272	21,826	82,998
R <sup>2</sup>	0.124	0.253	0.0789	0.0123	0.218	0.0643	0.328	0.03

NOTE: t-statistics in parentheses: \* p:0.10, \*\* p:0.05, \*\*\* p:0.01

## Discussion:

- Implications for Policy-makers:** Stronger creditor rights protection partially mitigate agency conflict and enhance lending=> Efficient capital markets



Acknowledgements: I appreciate the advice and support of my dissertation committee: Professor Kecskes, Professor Larkin, Professor Cao and my mentor Professor Milevsky . And support of the Schulich finance faculty

# Variation Approach to Service Capacity of Cloud Computing Providers

Eugene Furman, M.Sc. (Operations Management and Information Systems)

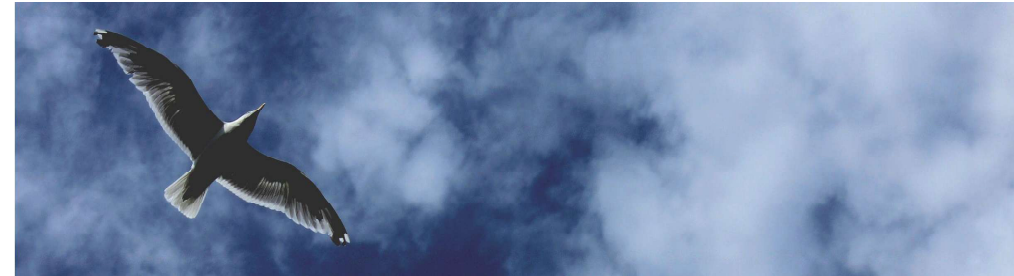
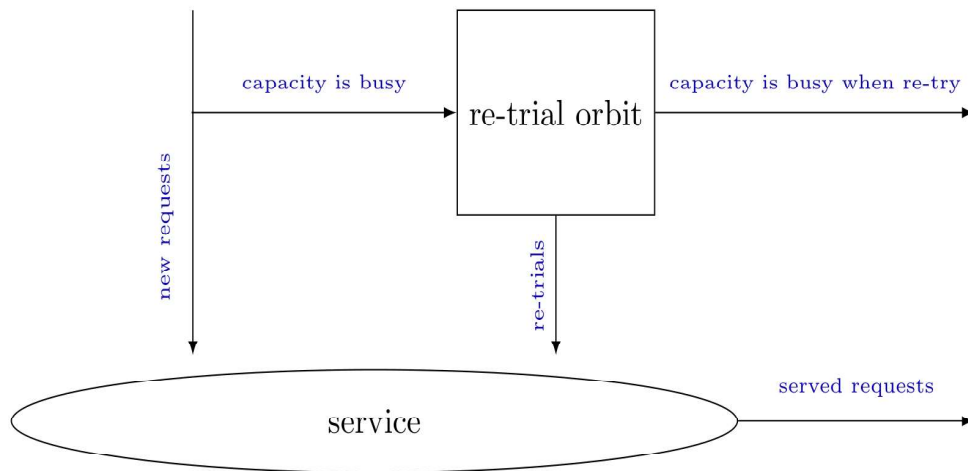
## Abstract

Not burdened by hard logistical constraints, remote computing clusters (clouds) serve clients as demanding as Netflix and Instagram. Because a high level of service is critical in the cloud computing industry, its current practices allocate excessive service capacity which remains idle most of the time. In consultation with an employee of a major cloud service provider, we propose a cumulative decision tool that reduces the need for over-capacity and prescribes the optimal time between repeated requests for service after an initial failed attempt.

## Research questions

- We optimize capacity of a cloud service as well as the design of its communication protocols with incoming requests to reduce over-capacity and increase revenue.
- How to select a cloud capacity to maintain high quality of service and to remain cost effective?
- How to determine the optimal inter-attempt time between repeated requests for service in order to minimize the expenses when idle capacity is not available?

Dynamics of the Service System



## Proposed Methodology

The interaction between a cloud and new requests, as well as their attempts to obtain service after an initial failure, is modelled as a multi-server queueing model with flexible workforce and re-trials. We introduce a deterministic flow approximation, which allows us to analyze the behavior of the system by solving a set of differential equations. We propose a following optimization problem.

$$\min_{r \in \mathbb{R}_{\geq 0}} \int_0^T |\dot{q}(t)| dt, \text{ subject to } \dot{q}(t) = \lambda(t) - r q(t),$$

where  $\lambda(t)$  is a time dependent arrival function,  $q(t)$  is a system load function and  $r$  is an inter-attempt time. By solving this problem, we determine the inter-attempt time that minimizes variation in the system load over time horizon  $T$  and introduce the maximum system load (MSL) approximation of the optimal service capacity as the floor of the maximum value of the system load function,  $MSL = \lfloor \max q(t) \rfloor$ .

## Contributions and Future Work

- Uncommon in the literature, we reduce a stochastic queueing network to a set of linear ordinary differential equations that are *smooth* in the right hand sides.
- We borrow the analysis of variation of a real-valued function to open up our optimization problem to standard methods of calculus and optimal control theory.
- Prompted by the needs of practitioners, our work will help managers to reduce the over-capacity in their cloud computing services.
- In the future, we will conduct a data analysis to verify if the **MSL** is effective and if it satisfies the service level requirements of the cloud computing industry.



# When a House Can't Be Your Home: How Markets Manage Supply Scarcity

Gulay Taltekin Guzel (Marketing)

## Introduction

- Housing in contemporary North America is far beyond being a means of shelter and associated with being a [responsible adult](#) (e.g. Molina 2017; Wright 1983).
- The “dream of home ownership” is an illusive for even relatively privileged buyers
- Soaring prices in densely populated urban areas leads [scarce supply](#), especially of affordable freestanding houses in major North American cities.

## Research Question

- How markets “manage” such conditions of supply scarcity?
- How the notion of an “ideal” or “desirable” home is reshaped in the current context where people are unlikely to own a house?
- The roles of multiple actors (i.e., consumers, retailers, financial institutions, government, investors, constructors etc.) and their influences on this aspect of the housing market.



1998



2002



2009



2012



2018



2020 (planned)

Image sources: *Toronto Star*, *The Globe and Mail*, Google Maps

## Proposed Methodology

- [City of Toronto](#), housing market due to its dense core experienced two condo booms in 1970s and 2000s (Lehrer and Wieditz, 2009; Lehrer et al., 2010).
- [Ethnographic research](#) with secondary and primary data collection: local media articles (BlogTO, the Globe and Mail, Toronto Star etc.), reports from government agencies (Toronto Home Builders Association etc.), semi-structured interviews with prospective home buyers and new home owners

## Importance/Implications of Research

- The phenomenon under investigation has multiple stakeholders such as government, municipality, consumers, sellers, realtor etc. and understanding the mechanism behind how they “manage” scarcity will contribute to well-being of the society especially the consumers by leading further discussions to potential solutions.
- Theoretically, the study will contribute to the consumer and market relationship literature by illustrating supply scarcity condition.

## Next Steps

- Preliminary analysis of secondary data suggests that there is an unorchestrated yet pervasive tendency to re-conceive of condos as ideal homes for consumers yet they have difficulty reconciling the rhetoric to which they are exposed with the reality of the real estate the shop for or buy.
- To better understand the full range of market dynamics related to the management of supply scarcity, my next step is to complete primary data collection.
- Then, I will triangulate primary and secondary sources data in my analysis.
- Implications of the study aim to be socio-political by suggesting actions to multiple stakeholders with the purpose of consumer well-being.

# When Stigma Doesn't Stick: Occupational Stratification in the Sharing Economy

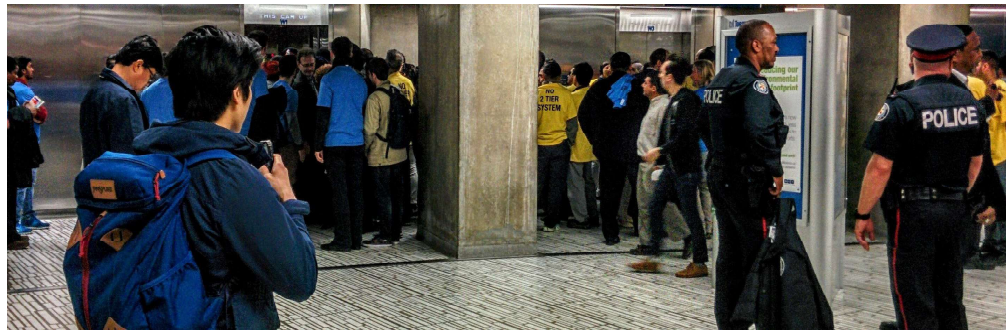
Kam Phung (Organization Studies), Madeline Toubiana, Sean Buchanan, Trish Ruebottom, and Luciana Turchick Hakak

## Introduction

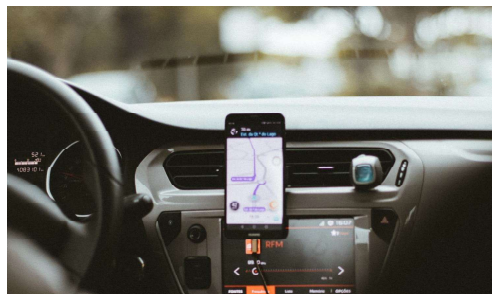
- Theory and research suggests that when an occupation is stigmatized, new entrants will quickly become stigmatized because stigma is transferable
- Such knowledge does not account for large shifts in the modern workforce that are changing the face of many traditionally stigmatized occupations
- The emergence of the “sharing” or “gig” economy has radically re-defined many occupations and raised questions about the degree to which stigma will transfer to numerous new entrants associated with a sharing economy innovation

## Research Question

What are the ways in which stigma transfer can be avoided when there are new entrants to a stigmatized occupation?



Pictured: PhD Candidate Kam Phung at Toronto City Hall conducting interviews and observations



## Methods

- **Qualitative case study:** Uber's entrance into Toronto, Canada and its concurrent impact on the taxi driving occupation and the drivers over a 4-year period (2013-2016)
- **Data and analysis:** 976 media articles; 55 interviews with Uber and taxi drivers; field observations
  - Overview and chronology of key developments from the year of Uber's entry to legalization
  - Systematic coding of “uber” and “taxi” instances in media articles (5 local/national outlets)
  - Open coding of media articles and interviews with Uber drivers and taxi drivers

## Results

Figure 1. Occupational stigma over time

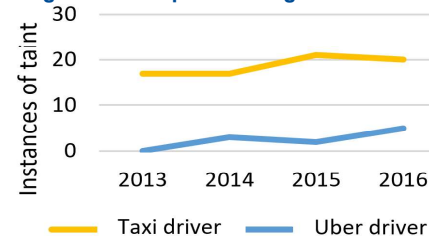
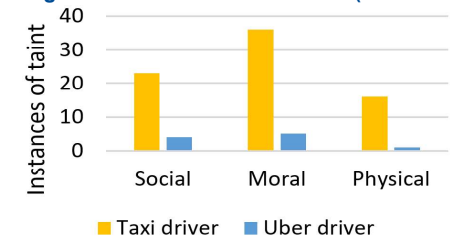


Figure 2. Total instances of taint (2013-2016)



- **Antecedents to avoiding stigma transfer:** Mass attention of entrance and ambiguity of new entrants
- **Stigma deflection for new entrants:** Uber driving and Uber drivers avoided stigma transfer by creating categorical distinctiveness and showcasing identity discrepancies that enable them to deflect the taint associated with taxi driving and taxi drivers
- **Stigma entrenchment for incumbents:** A by-product of stigma deflection was the further entrenching of stigma for taxi driving and taxi drivers via comparisons made by Uber executives, lawmakers, and the media anchored on the social, moral, and physical taint associated with taxi driving and taxi drivers
- **Occupational stratification:** Outcome was a material (regulations) and symbolic (evaluations) separation with key discrepancies in favourability between Uber driving/drivers and taxi driving/drivers

## Discussion

- We identify the conditions and ways in which stigma transfer can be avoided but also showed that this can be at the cost of others actors
- We highlight how audiences can indirectly deflect and entrench stigma regardless of the perceptions or actions of those that are stigmatized
- We point to the need to examine both the positive and negative implications of the sharing economy

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# Service Employees' Reactions to Customer Mistreatment: The Resource and Conflict Management Perspectives

Long He<sup>1</sup>, Ruodan Shao<sup>1</sup>, Young Ho Song<sup>2</sup>, Jungkyu Park<sup>3</sup>

<sup>1</sup>Schulich School of Business, York University, Toronto, Canada, <sup>2</sup>University of Windsor, Windsor, Canada, <sup>3</sup>Kyungpook National University, Daegu, South Korea

## Introduction

- Turnover rate is over 50% in low-wage service industry (Ellingson, Tews, & Dachner, 2016), and turnover intentions strongly predict actual turnover (Tett & Meyer, 1993).
- Customer mistreatment has been identified as one primary reason of service employees' turnover intentions (Karatepe, Yorganci, & Haktanir, 2009).
- Previous research has taken resource, emotional, or justice perspectives to understand the effects of customer mistreatment and the potential boundary conditions (Wang et al., 2013).
- Our study integrated **resource** and **conflict management perspectives**, and considered customer mistreatment as **interpersonal conflict** between employees and customers. We investigated the daily relationship between customer mistreatment and employees' turnover intentions via ego-depletion, as well as their **compromising** conflict management strategy as a moderator in this mediation linkage.

## Hypotheses

- Hypothesis 1: Employees' experienced daily customer mistreatment is **positively** related to their daily ego-depletion.
- Hypothesis 2: Employees' daily ego-depletion is **positively** related to their daily turnover intentions.
- Hypothesis 3: Employees' daily ego-depletion **mediates** the relationship between daily customer mistreatment and daily turnover intentions.
- Hypothesis 4: Compromising conflict management strategy of employees **moderates** the relationship between daily customer mistreatment and employees' daily ego-depletion such that this relationship is **weaker** when employees take **more** (versus less) compromising strategy.

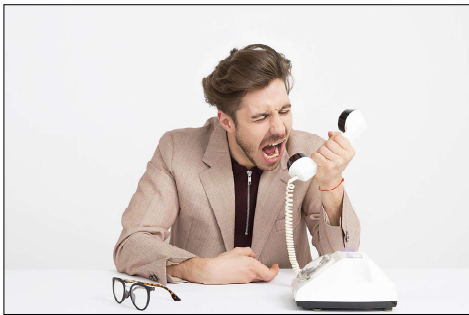
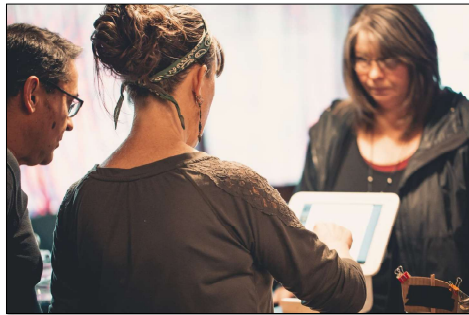


Image Source: pexels.com

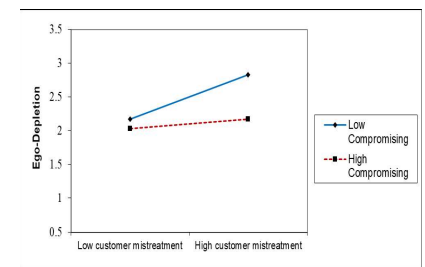
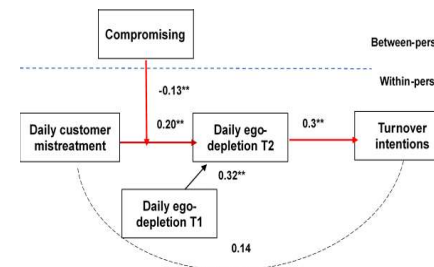


## Methodology

- 84 representatives working at an outbound call center of a large South Korean insurance company were recruited to participate in our 5-day diary study.
- Established scales were used to measure all the variables on a 5-point Likert type scale (1= strongly disagree, 5 = strongly agree).
- Multilevel moderated-mediation regression was used to test our hypotheses

## Results

- All the hypotheses were **supported**.
- When employees took more compromising strategy, the effect of customer mistreatment on ego-depletion became non-significant.



## Discussion

### 1. Theoretical Contributions

- Extended prior customer mistreatment literature by documenting ego-depletion, as a new mediator, to account for the relationship between customer mistreatment and employees' turnover intentions.
- Enriched the current research by integrating resource and conflict perspectives to identify a new boundary condition around the effect of customer mistreatment.

### 2. Practical Contributions

- Company could emphasize the “zero tolerance to workplace incivility and mistreatment” to build a more respectful working environment
- Company could offer conflict management training program to employees



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# 'We Didn't Intend to Offend': Claiming Ignorance in Response to Offensive Advertising and Consumer Backlash

Mohammad S. Kermani (Marketing)

## Introduction

- Marketers deliberately use shock advertising techniques to break through the clutter and be noticed (Dahl et al., 2003).
- This technique often leads to consumer offense and viral backlash (Holiday, 2013). Firms typically respond by claiming that they did not intend to offend (Tait, 2016).
- Prior theoretical models suggests that unintentional offenses are viewed less negatively than intentional ones (e.g., Darley and Schultz, 1990).
- This proposed research is interested in exploring whether denying intent can backfire when consumers believe that the firm should have foreseen the potential negative consequences of their advertisement.

## Hypothesis

**H1:** Denial of intent and justification will interact such that consumers will judge a brand more positively when the brand denies intent (vs. no response) and there is a high justification for the offense. Whereas consumers will judge a brand more negatively when there is a denial of intent and a low justification for the offense.

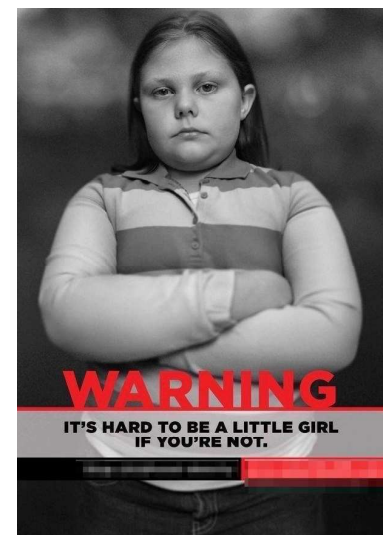


Image source: Washington Post



**Natural Health** @NaturHealth 28 Jan 2019

We did not know this advertisement would be offensive. This was unintentional. Our aim was to raise awareness about the healthy products we sell.



**Natural Health** @NaturHealth 28 Jan 2019

We did not know this advertisement would be offensive. This was unintentional. Our aim was to raise awareness surrounding childhood obesity.



**Natural Health** @NaturHealth 28 Jan 2019

While we knew this advertisement would be offensive to some, we went with this to raise awareness about the healthy product we sell.



**Natural Health** @NaturHealth 28 Jan 2019

While we knew this advertisement would be offensive to some, we went with this to raise awareness about childhood obesity.

## Pilot Study

- The aim of this study was to test the causal relation between denying intent (vs. claiming intent and not responding) and brand attitude when there was a strong justification (i.e., raising awareness about childhood obesity).
- A significant effect was found for response type on brand attitude,  $F(2,162)=4.97$ ,  $p=0.008$ ,  $\eta^2=0.06$ . The unintentional condition ( $M=3.12$ ,  $SD=1.54$ ) led to a more positive brand attitude compared to the control condition ( $M=2.57$ ,  $SD=1.57$ ,  $p<0.05$ ) and the intent condition ( $M=2.23$ ,  $SD=1.20$ ,  $p<0.01$ ).

## Next Steps

- Testing interaction with a 3 (Response: Unintentional vs. Intentional vs. Control) x 2 (Justification: Strong vs. Low) design.
- Testing other potential moderators such as degree of offensiveness, resources of company (i.e., power), and whether consumers are the target of the offense.
- Testing potential mechanisms such as insensitivity, anger or brand sincerity

## Importance/Implications of Research

- There is a common belief amongst some marketers that outrage and controversy can be beneficial in the long run (Holiday, 2013) and that potential negative reactions can be offset by denying intent to offend.
- This study can provide practical implications in terms of the potential risks of such strategies.
- This study can also provide insight into the belief that firms should have an obligation to foresee and prevent these offenses from occurring.
- Theoretically, this study can contribute to the marketing literature by exploring whether denying intent can lead to a negative outcome in contrast to what prior attribution theories have suggested.

# Entrepreneurship through Fiction in Media, Pennsylvania

Nyla Obaid (Organization Studies)

## Introduction

- Entrepreneurship, or the attempts to create something new, has been called the “business of imagination,” but how are entrepreneurs able to imagine something new?
- The telling and re-telling of fictional stories have been linked to the ability for entrepreneurs to imagine (Gartner, 2007; Rendova, Barry & Ketchen, 2009) but often for a single entrepreneurial instance (e.g. one company or one founder imagined something new)
- I am interested in a more macro reading of the topic... how do fictional stories of entrepreneurship impact one another? How does this lead to a field of entrepreneurs to mobilize?
- By the way, fiction = stories that everybody knows are not really true

## Research Objective

- To understand how entrepreneurial efforts influence one another
- To understand the role of fictional stories in mobilizing entrepreneurship

## Methodology

- 4 month ethnography, where I took observational notes and participated in Media Business Council
- 32 interviews with entrepreneurs and residents of Media, Pennsylvania
- Minutes & historical data from Media Borough, Media Arts Council, Media Farmer’s Market meetings
- Qualitative analysis of the process and timeline of events

## Results

- Different types of stories are told at different times to spark entrepreneurial efforts, which further inspire other entrepreneurial efforts

Phase	Fictional Story	Mechanisms for Storytelling	Actors	Results
1999-2004	Media’s history is rich with tourism and tolerant locals	Quaker church services Coffee table book Library talks	Historical fans and hobbyists and “old timer” residents.. NOT entrepreneurs	Residents support the creation of Media Business Council
2005-2008	Media is so unique it should be America’s First Fair Trade Town	Pamphlets, newspapers Town sign	<b>Centralized</b> Media Business Council leads efforts town-wide with support from business owners	Fails to become Fair Trade
2009-2012	Media is the place for all kinds of community organizations to exist	Creation of new organizations (e.g. Arts Council) and events (e.g. Dining Under the Stars)	<b>Distributed.</b> Everybody takes up whatever their passion project is	Lots of smaller organizations pop up with various levels of success
2013-present?	Everybody in Media has a role in its present and future	Celebrations	Beyond entrepreneurs. Residents re-tell stories	Culture of entrepreneurship

## Discussion

- Entrepreneurship “spreads” through the telling and re-telling of stories, so it’s important to create opportunities for this to happen (e.g. events, conferences, celebrations)
- At a macro-level, failed entrepreneurship can serve its own purpose in becoming a fictional story that mobilizes new groups of entrepreneurs



Photo used with the permission of the Media Business Council (2015)

# Evaluating the Impact of Enhanced Process Quality on Various Hospital Settings

Ortac Onder, M.Sc. (Operations Management and Information Systems)

## Introduction

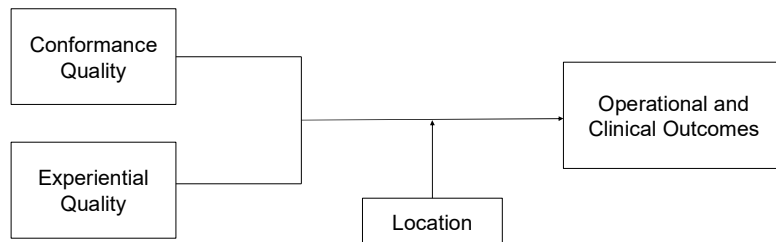
Process quality is of utmost importance to hospitals. Two dimensions of process quality, conformance and experiential quality, have been studied in the literature. However, hospital characteristics' impact on hospitals' ability to improve their process quality have been overlooked. Both patients' approach to the healthcare providers and hospitals' resources vary depending on the hospital location affecting the impact of process quality on hospital outcomes, i.e., cost and readmission rate. Hence, the relationship between process quality and hospital outcomes is different for rural and urban hospitals.



## Research Questions

- How does enhanced process quality influence hospital operational and clinical outcomes?
- How does process quality's impact on hospital outcomes vary by location?

## Theoretical Model



## Methodology

- Time-series analysis is conducted using secondary data from 3,458 acute care hospitals in the U.S. over a 5-year period.
- Hospitals are clustered based on their location.
- In order to overcome the concerns regarding endogeneity for cost, a system generalized method of moments (GMM) model is estimated which is designed specifically to account for dynamic endogeneity in panel data.
  - $\Delta \text{Cost}_{it} = \alpha \Delta \text{Cost}_{it-1} + \beta_1 \Delta X_{it} + \beta_2 \Delta W_{it} + \Delta v_{it}$  (First differences equation)
  - $\text{Cost}_{it} = \alpha \text{Cost}_{it-1} + \beta_1 X_{it} + \beta_2 W_{it} + u_i + v_{it}$  (Levels equation)
- Fixed-effects estimator is used for modelling readmission rate since endogeneity is not a concern.
  - $\text{Readmission Rate}_{it} = \beta X_{it} + u_i + v_{it}$

## Results

- While conformance quality significantly affects both cost and readmission rate in urban hospitals, it is insignificant for rural hospitals.
- Experiential quality's impact on cost and readmission rate differs in terms of both significance and direction of the relationship for urban and rural hospitals.
- Current cost levels of hospitals are significantly affected by previous years' cost levels in urban hospitals, whereas the hospitals in rural areas current cost levels does not depend on previous years' levels.

## Discussions and Future Work

- The location of a hospital affects both direction and significance of process quality dimensions' impact on operational and clinical outcomes.
- Rural hospitals react differently to the policy changes that force them to focus on their process quality than urban hospitals.
- These differences need to be addressed by policymakers, and relevant policies should be adjusted accordingly.
- In the future, a Data Envelopment Analysis (DEA) for a comparison of frontier hospitals in urban and rural areas will be conducted.



# The Financialization of Human Capital: the Case of the Baseball Industry

Pier-Luc Nappert, PhD Student (Accounting)

## Introduction

- Two lawsuits involving minor league baseball players against Major League Baseball in recent years have highlighted large income inequalities in baseball
- Media and teams are increasingly discussing players in financial terms
- Startups are emerging to provide financial options to professional athletes, thereby transforming them into “stocks”

## Research Questions

- How is human capital constructed, by organizations and by workers, and what are the effects?
- Could the construction of employees as “assets” be achieved independently of the accounting representation?

## Proposed Methodology

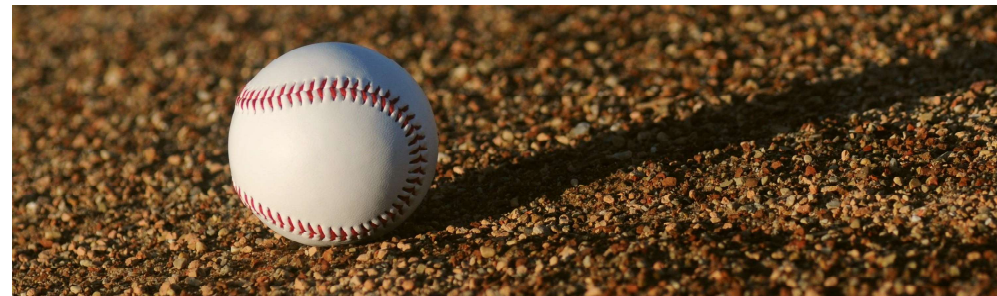
- Qualitative study based on:
  - Interviews with baseball players, baseball executives (scouts, baseball operations analysts, player development coaches), team accountants, agents, and industry suppliers
  - Secondary data sources (books, newspapers articles, specialized websites)

## Importance/Implications of Research

- The baseball industry provides a good setting to investigate the implications of “winner-take-all” markets and answers theoretical questions about human capital accounting
- Explores causes and consequences of the financialization of human capital, which may have implications for other industries
- Provides a better understanding of professional sport teams’ accounting practices

## Early Findings

- Financialized valuation of performance constructs baseball players as “assets” *independently* of the accounting representation, creating a “player asset value” framework
- Financialization does not only turn employees into “entrepreneurs of the self” but also entrenches them as organizational “assets”
- As “entrepreneurs of the self”, baseball players financialized themselves to maximize their human capital



# An Institutional Governance View of Platform Strategy

Pouyan Tabasinejad (Strategy), Anoop Madhok

## Introduction

- Scholars have largely looked at platform governance as consisting of either engineering design or price mechanisms (subsidies)
- However, these views do not address how perceptions of legitimacy will also affect whether and how actors will engage with the platform
- To address this gap, we conceive of platforms as polities and platform owners as governments who attempt to facilitate legitimacy in their platform
- Even if two platforms have identical technological characteristics and subsidies, actors will choose to participate on the one which has *more legitimacy*
- Two types of legitimacy
  - Pragmatic legitimacy: “will actor(s) act in a way that safeguards my *interests*?”
  - Normative legitimacy: “will actors(s) act in a way which is ‘the right thing’ to do?”

## Research Question

- **What is the role of legitimacy on digital platforms, and how do platform firms facilitate legitimacy on their platforms?**



## Methodology

- **Case studies** comparing pairs of popular platforms:
  - **Amazon/eBay** – market platform where **short-term pragmatic legitimacy** is more important
  - **Facebook/Myspace** – social platform where **short-term normative legitimacy** is more important
  - **iOS/Android** – market platform where **long-term pragmatic legitimacy** is more important

## Preliminary Findings

- Two kinds of legitimacy – normative (important for social platforms) and pragmatic legitimacy (important for market platforms)
- Platform firms who have more effective institutions that facilitate greater legitimacy may be better at attracting actors (Amazon v eBay, Facebook v Myspace):
- Amazon had better reviews, better insurance programs for unfulfilled transactions, and product standards than eBay, something which was recognized by eBay analysts, and which developed more pragmatic legitimacy – people felt more confident buying/selling on Amazon than eBay
- Facebook was better than Myspace at facilitating normative legitimacy – it acted quickly to deplatform sexual predators, but Myspace did not, (at one point, had >100K registered sex offenders on platform)
- Increased long-term legitimacy also seems to garner more participation (iOS v Android):
- Android has more users, but iOS is more profitable; this may be due to the fact that Apple was better at controlling malware and viruses as well as protecting privacy than Google
- Platforms may be competing on the basis of legitimacy-building institutions (Amazon v eBay):
- Originally, eBay's review system made it more pragmatically legitimate than its competitors, but Amazon developed a review system which was recognized as facilitating more confidence in exchange

## Next Steps:

- Empirical research to verify case study findings
- Do subsidies increase or decrease legitimacy?
- Add a new dimension of platform governance to platform theory.
- Possible beneficiaries of research: managers, entrepreneurs, platform firms

# Are Industries Becoming More Concentrated? The Canadian Perspective

Ray Bawania (Finance) and Yelena Larkin (Finance)

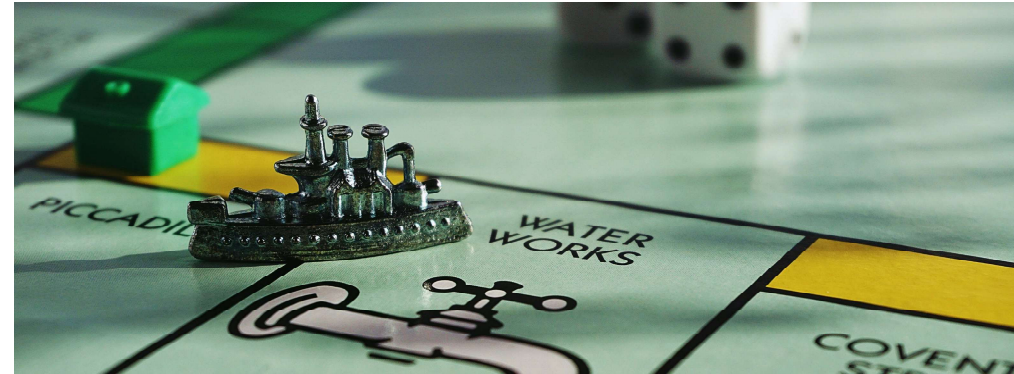
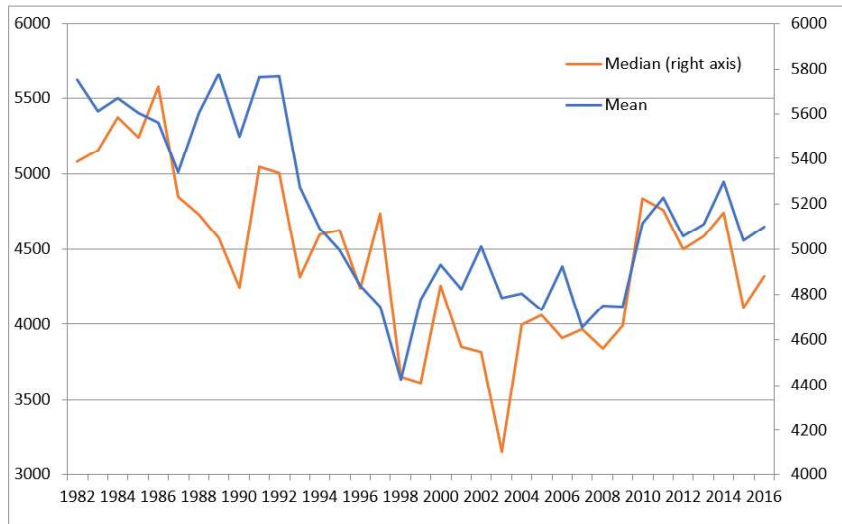
## Introduction & Research Question

- Prior research has shown that US industries have experienced an increase in industry concentration levels – we look to see if Canada has a similar pattern of consolidation and try to understand the drivers of this phenomenon.
  - The US & Canada share geographic proximity, similar industries and many economic factors which makes Canada a good subsequent test. We use any differences in regulatory and market structure between the two countries to question the causes of this phenomenon of higher concentration?

## Methodology

- We use Herfindahl-Hirschman Index (HHI) as a measure of concentration and look at whether this value has increased over time.
- We supplement this by looking at changes in the number of public firms, the rate of firms going public and the level of profitability of firms as it relates to the industry HHI along with several alternative explanations.

HHI Index Over Time



## Results & Discussion

- Our results show industry consolidation is a widespread phenomenon.
  - Roughly 1/3 of Canadian industries have experienced a >50% increase in the HHI level
- This shift is also visible in the public markets: the number of firms are decreasing, the remaining firms are growing larger, and the number of IPOs per year has dropped.
  - While the median firm size on the TSX has remained fairly flat, the top quartile size of firms have grown larger along with the mean firm size.
- We also look at M&A activity, private firm revenues, regulatory dynamics and we observe:
  - The “regulatory overreach hypothesis” suggests that firms are no longer going public due to increased regulatory burden on firms. We find that this does not align with the timings of regulatory reforms.
  - M&A volume has increased in the last two decades, especially horizontal mergers, supporting the case of lower thresholds during regulatory approvals.
  - We find that current antitrust legislation pushes enforcement after industries have already consolidated – this leads to increases in fines from firms abusing their power but as it is currently written, mergers below legal thresholds still get approved in most cases allowing the consolidation trend to continue.



# Persuasion Knowledge and Firm Type

Sabrina Spence (Marketing)

## Introduction

Persuasion knowledge (PK) consists of a set of theories or “folk knowledge” that consumers hold regarding persuasion. PK enables consumers to recognize a persuasion attempt and execute effective and appropriate coping strategies (Friestad & Wright 1994). Some persuasion tactics, for example flattery, activate consumers PK resulting in negative evaluations (Campbell & Kirmani 2000). While activating PK does not inevitably lead to negative evaluations, prior research has focused on negative consequences experienced by for-profit firms after activating consumers' PK (e.g., Isaac & Grayson, 2017). We explore whether charities and CSR initiatives, which may be perceived as acting altruistically (vs. for-profits), can employ tactics such as flattery without suffering the same negative evaluations as for-profit firms. We also explore the process responsible for differences in consumers responses to PK activation.

## Research Questions

- Do consumers respond differently to persuasion attempts by charities and CSR initiatives compared to for-profit firms?
- Does the type of cause a charity or CSR initiative supports influence consumers responses to persuasion attempts?

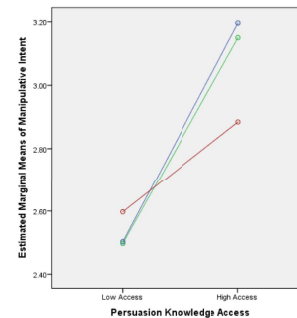
## Methodology

- **Study One:** 2 (PK Access: High vs. Low) x 3 (Firm Type: Charity vs. CSR vs. For-Profit) between subjects experiment. 365 participants (Mage = 42.7 years) from the online panel TurkPrime.
- **Study Two:** 2 (Cause Type: High vs. Low Responsibility) x 2 (Firm Type: Charity vs. CSR) x 2 (PK Access: High vs. Low) between subjects experiment. 357 undergrad students (Mage = 18.9 years).
- **Procedure:** In both studies participants read a description of “Innovative Threads” followed by the shopping scenario, they then completed the dependent variables and two thought listings.
- **Firm Type Manipulation:** Participants read about “Innovative Threads”, a brand described as either a for-profit clothing brand, a for-profit clothing brand with a CSR initiative or a charity providing winter clothing to low income children [families in study 2].
- **PK Manipulation** (adapted from Campbell & Kirmani 2000): Participants were asked to imagine shopping for a scarf at an Innovative Threads kiosk. While shopping, a salesperson either complimented participants as they were trying on an expensive scarf (high PK access) or no compliment occurred while shopping (low PK access).
- **Cause Type Manipulation** (adapted from Lee, Winterich & Ross, 2014): In study 2 the charity/CSR cause was described as supporting families in need of warm clothing due to either: a poor economy (low responsibility) or because they spend their money on illegal substances (high responsibility).

## Results

### Study 1

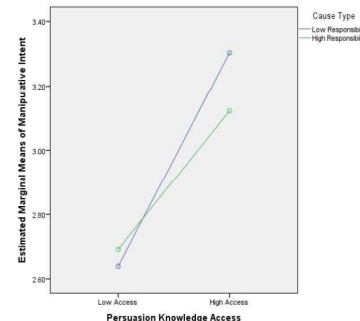
Figure 1: Main effect of PK Access on Manipulative Intent for Study 1 ( $p < .001$ ).



- Receiving a compliment resulted in perceptions of greater manipulative intent vs. no compliment. (fig. 1).
- Brand trust didn't differ significantly between the firm types when PK access was low ( $ps > .20$ ), but respondents trusted the for-profit less (vs. charity and CSR firms) when a tactic was used ( $ps < .01$ ). (fig. 2)
- A moderated mediation analysis (Hayes 2017, model 8) indicated the compliment from the for-profit firm (vs. the charity and CSR versions) was perceived as more inappropriate which in turn lowered brand trust.

### Study 2

Figure 3: Main effect of PK Access on Manipulative Intent for Study 2 ( $p < .001$ ).



- Receiving a compliment resulted in perceptions of greater manipulative intent vs. no compliment. (fig 3)
- The high responsibility cause resulted in lower brand trust vs. the low responsibility cause ( $p=0.001$ ) (fig 4).
- Receiving the compliment resulted in marginally lower brand trust vs. no compliment ( $p=0.091$ ) (fig 4).
- The cause a charity or CSR firm supports did not appear to influence responses to PK access (fig. 4).

Figure 2: Interaction of PK Access x Firm Type on Brand Trust ( $p < .05$ ) for Study 1.

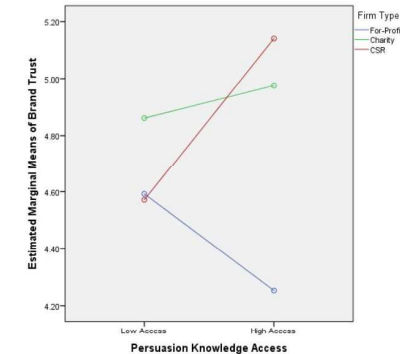
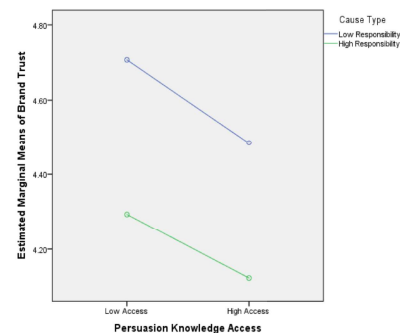


Figure 4: Interaction of PK Access x Cause Type on Brand Trust for Study 2 ( $p=0.825$ ).



## Discussion

- This work aims to contribute to our understanding of the brand contexts that influence consumers' responses to PK activation. We rule out the possibility that a brand's status as a charity or CSR initiative reduces the accessibility of a compliment as a persuasion tactic. The results of study 1 suggested consumers understood the tactic had been used, but perceived it as less inappropriate when executed by charities and CSRs (vs. for-profit firms) resulting in less negative evaluations.
- In study 2, contrary to expectations, the deservingness of the cause supported by the charity/CSR did not influence consumers responses to PK activation.



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# What's Next? The Role of Contemporary Technology in Shaping Consumer Taste Structures

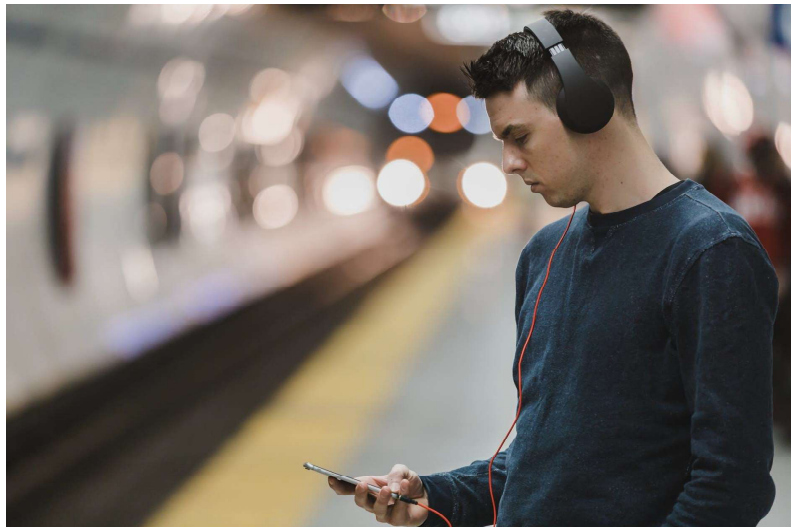
Shahzeb Jafri (Marketing)

## Introduction

- Consumers' aesthetic knowledge exists as part of a 'taste regime', 'a discursive system that links aesthetics to practice' (Arsel and Bean, 2013).
- The rapid inflow of technology into consumer lives has led to the creation of information societies characterized by a flood of big data (Just and Latzer, 2017; Wilson, 2017), and represents a nucleus of change and technology's capability of acting as a structure, institution or an actor.
- Today, the usage of recommendation systems is giving rise to an 'algorithmic culture' (Striphas, 2015), with technology operating as an instrument of exerting power, furthering economic and political interests and transforming 'taste' not only on an individual, but a collective/societal level (Just and Latzer, 2017; Karakayali, Kostem and Galip, 2018).

## Research Questions

- What happens to consumers' taste structures when they consume in algorithmically enabled, networked and assisted consumption fields?
- How do consumers navigate the discovery of new products in such technologically networked and assisted consumption fields?



## Proposed Methodology

- The current project will be looking at consumers' discovery of new music on algorithmically assisted digital platforms such as Spotify, Apple Music, Google Play, Amazon Music, Tidal and Pandora.
- **Netnographic research** with secondary and primary data collection: media articles (New York Times, Forbes, Billboard Magazine, Reddit.com, Spotify Community), semi-structured interviews with millennial consumers.
- Participant Observation at Indie Week Toronto 2019: An annual conference with industry specialists, independent artists, attendees and production companies discussing changing industry dynamics.

## Importance/Implications of Research

- The context under consideration has the potential to explain the role played by contemporary technology in shaping consumer taste structures.
- By uncovering the process consumers' music discovery, the project intends to showcase how consumers navigate the discovery of cultural products in today's algorithmically enabled, assisted and networked consumption fields.

## Next Steps:

- Develop deeper contextual understanding through archival and netnographic data collection and analysis.
- Next step is to conduct primary data collection: semi-structured interviews and participant observation.

# Digital Transformation in Retail Banking and The Role of Digital Service Development

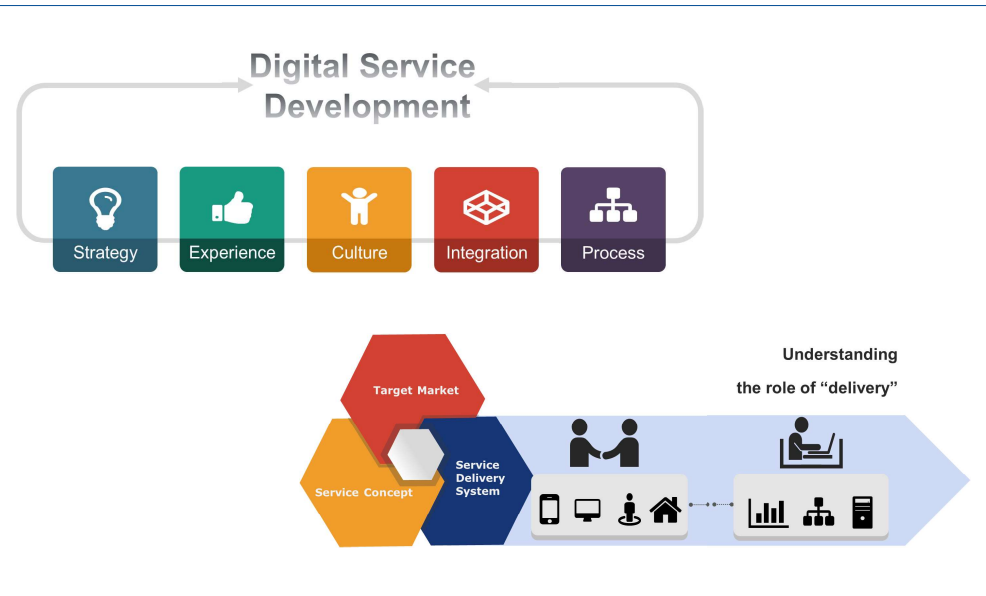
Ting Cao (Operations Management & Information Systems)

## Introduction

- Digital finance is believed to be the basis for the next generation financial eco-system. However, the Service Operations Management (SOM) literature lacks explanatory insights on service innovation in the digital age.
- Therefore, in this study, we empirically examine the impact of digital transformation on digital service performance in retail banking.

## Research Questions

- How do we measure firms' efforts in generating digital service options?
- What is the impact of digital transformation on digital service performance in retail banking?



## Proposed Methodology

- We develop a new construct, digital service development, to capture firms' efforts in generating digital services. A two-stage approach is used for new multi-item scale development.
- We collect survey data and secondary data and leverage the Structural Equation Modelling (SEM) to conduct analysis and test for the potential mediation effect of the service delivery system on digital service performance.

## Importance/Implications of Research

- Our study looks at development and performance of digital services to help retail banks to better seize digital moments in the customer experience lifecycle.
- The results offer not only "know-what" of digitalization but also the "know-how" of developing digital services by appropriately managing and improving relevant perspectives to achieve higher digital service performance.
- The efforts towards digitalization should not be unidimensional.
- Our aggregate measure of digital service development, suggests that financial service providers should consider the following five perspectives: digital service development strategy, digital service experience management, digital culture, digital service operational integration and digital service development process.

## Next Steps:

- We will launch the **Innovation in Digital Services** Survey, which is jointly conducted by Schulich and Deloitte.
- Results from this survey will help to inform banking executives on key drivers and best practices for undertaking in and delivering digital transformation both to their employees as well as to their clientele.

Interested in taking the survey?



Invitation Code: researchday2019



Acknowledgements: We appreciate the support of the Deloitte Cognitive Analytics and Visualization Lab  
Project was funded by SSHRC



# The Soft Side of Political Conservatism? The Bounded Effects of Political Conservatism on CSR

Tony Jaehyun Choi (Organization Studies) and Yuval Deutsch

## Introduction

- **Domain:** The influence of political ideology on corporate social responsibility (CSR)
- **Theoretical framework:** The logic of appropriateness + social capital theory
- **Gap:** The simplistic view on underlying values of political conservatism (i.e., political conservatism = free-market capitalism)
- **Research question:** Would different types of social capital in a local community elicit different values from political conservatism - *free-market capitalism versus community spirit and religiosity* - and, in turn, drive firms' CSR engagement toward the opposite directions?

## Hypotheses

- H1: When the influence of political conservatism increases in a community, firms in the community are likely to decrease CSR
- H2: The higher interfirm social capital is in a county, the stronger the negative relationship between political conservatism and firm-level CSR will be
- H3: The higher community social capital is in a county, the weaker the negative relationship between political conservatism and firms' CSR will be

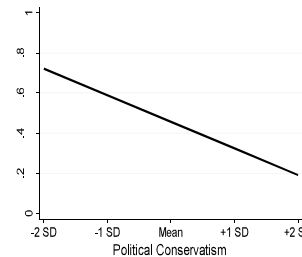
## Methodology

- **Sample:** 6,508 observations (169 US counties) between 2000 and 2013
- **Measures** CSR (MSCI ESG KLD Stats), political conservatism (the relative vote share of the Republican Party in the Presidential elections), interfirm social capital (the density of business associations in a county), and community social capital (the density of social associations in a county)
- **Analysis:** Hierarchical linear model + hybrid approach (between- and fixed-effects)

## Results

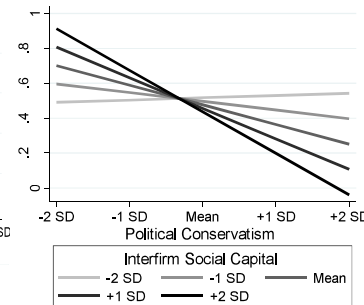
- H1, H2, and H3 are all supported

**Figure 1.** The Relationship between Political Conservatism and CSR

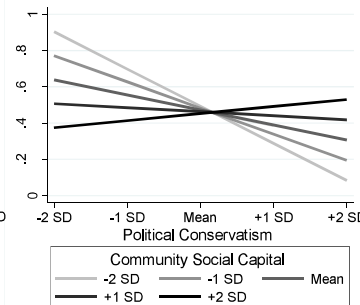


(Consistent with previous studies)

**Figure 2.** The Interaction of Interfirm Social Capital and Political Conservatism on CSR



**Figure 3.** The Interaction of Community Social Capital and Political Conservatism on CSR



## Discussion

- We find two conflicting identities of political conservatism in terms of CSR engagement: free-market capitalism versus community spirit/religiosity
- 'Which identity manifests itself' depends on 'how the situation is defined by decision-makers'
- Two different types of social capital - interfirm and community - provide firms with different situational cues and elicit conflicting stances on CSR from political conservatism

