

RESEARCH 4GOOD



UNIVERSITY OF
BATH
SCHOOL OF MANAGEMENT

ISSUE ONE

**HOW OUR
RESEARCHERS
ARE TACKLING
MODERN
SLAVERY**

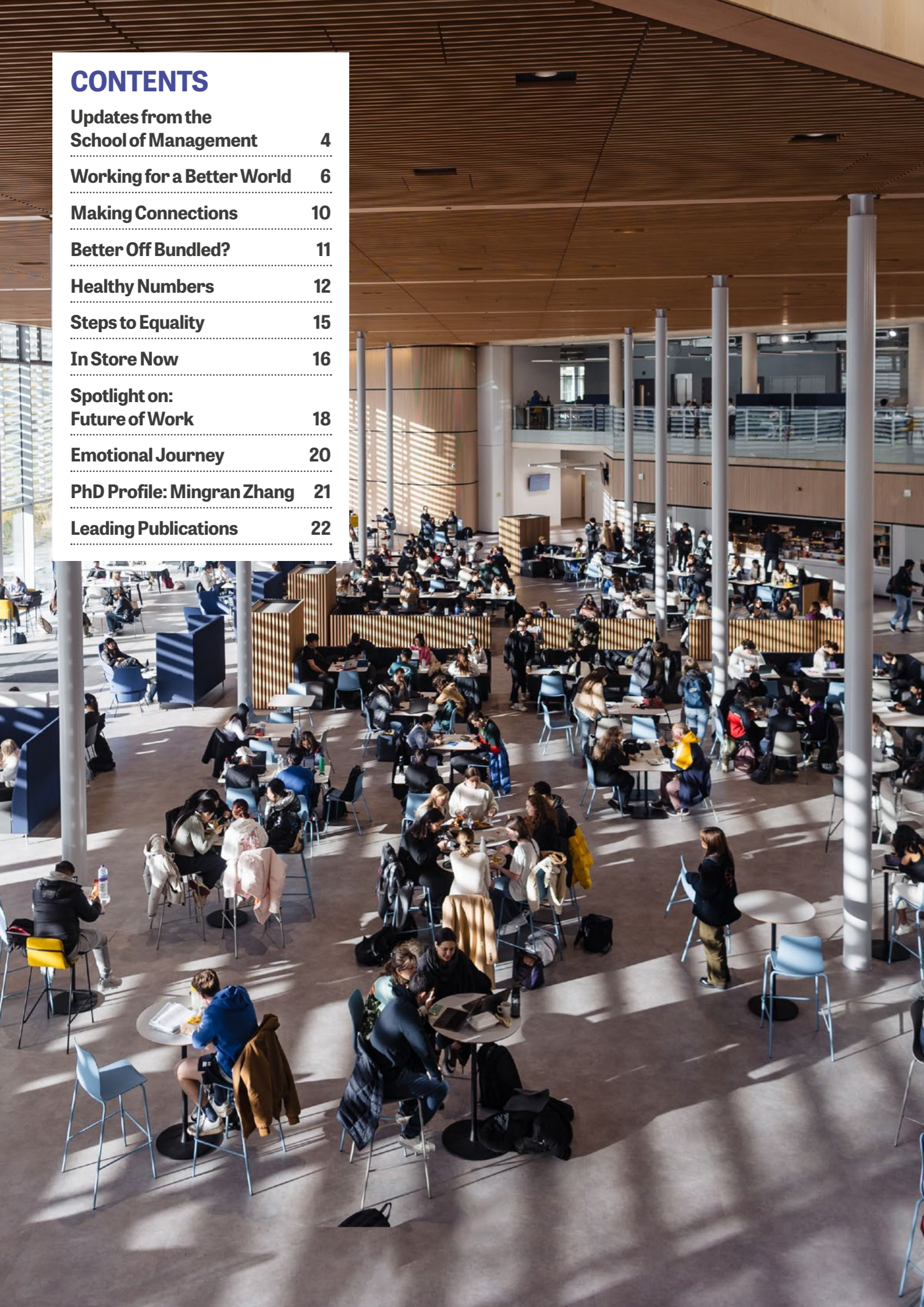
**9 WAYS DATA
IS IMPROVING
HEALTHCARE**

**EXPLORING
THE FUTURE
OF RETAIL**



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WELCOME MESSAGE FROM THE DEAN



Welcome to the first issue of **Research4Good**, a magazine showcasing some of the exciting research being carried out here at the University of Bath School of Management.

Across our research centres and labs, we are home to more than 170 academics, with a huge range of specialisms spanning everything from how artificial intelligence will affect the way we work, through to the intersection of climate change and modern slavery.

The common theme running through our research is that it improves people's lives. It enhances our community. It strengthens our economy. It contributes to a better world. In these pages, we are delighted to celebrate just some of the impactful research that we've been doing recently.

We take a look at how members of the Centre for Business, Organisations and Society are shining the spotlight on human rights abuses around the world; the ways that the Centre for Healthcare Improvement & Innovation is smoothing vaccine rollouts, reducing operating theatre downtime and optimising patient flow through intensive care units; and the intriguing insights coming out of our Retail Lab.

I hope you enjoy discovering more about what we're achieving here at Bath. If you're interested in finding out more or would like to receive email newsletters from us, please do get in touch at researchoffice@bath.ac.uk

Professor Steve Brammer
Dean of the School of Management

UPDATES FROM THE SCHOOL OF MANAGEMENT



NEW DIGITAL SECURITY INSTITUTE LAUNCHES

The new research Institute for Digital Security and Behaviour (IDSB), launching in August 2024 under the leadership of Co-Directors Professor Laura GE Smith and Professor Adam Joinson, will leverage and combine Bath's unique expertise in social and data science applied to security. The Institute will create a single 'front door' for interdisciplinary academic research and collaboration with industry and government.

One of IDSB's first projects is 'Cyber Statecraft in an Era of Systemic Competition', a two-year research initiative exploring the theory, practice, and evaluation of cyber statecraft.

The project will be carried out with King's College London and the Royal United Services Institute, and has received more than £850,000 in funding from the

Engineering and Physical Sciences Research Council (EPSRC) and the Defence Science and Technology Laboratory (DSTL).

"The combination of disciplines addressing a key question – in this case, international relations, economics and information systems – is a great example of how we are going to focus on some of the challenges of security in the digital world through innovative, interdisciplinary work," says Professor Adam Joinson.

"Evolving concepts, such as cyber power, require new and improved theoretical models," adds IDSB member Dr Joanna Syrda. "But in order to model – in theory or practice – we need to define and quantify. We will work together on developing measures of cyber power that can meaningfully help evaluate effectiveness of cyber statecraft."

BUILDING BRIDGES FOR INNOVATION

Innovation Bridge is a new initiative to support interdisciplinary research projects and novel solutions around entrepreneurship, led by Professor Dimo Dimov, Director of the Centre for Research on Entrepreneurship and Innovation (CREI). It will build upon the School's existing expertise in this area and bring in other researchers from across our University, as well as local communities and entrepreneurs.

The goals of Innovation Bridge include building integrated datasets to map entrepreneurial ecosystems; developing strategic collaborations with UK-based businesses and governmental organisations to generate socio-economic impact; and informing entrepreneurial action and outcomes. The project will also support the UK Government's 2022-2027 strategy to build an innovation-led economy.

Innovation Bridge is one of the University's Bath Beacons, which empower our research community to tackle major global challenges by building consortia for large-scale funding. One of the previous Beacons led by the School of Management, Value of Data, resulted in two successful research projects and five journal publications.



Prof. Dimo Dimov



STELLAR SUPPORT FOR START-UPS

SETsquared has been ranked in the top three start-up hubs in Europe, and first in the UK and Ireland. The SETsquared Partnership is a collaboration across the Universities of Bath, Bristol, Cardiff, Exeter, Southampton and Surrey. It provides support programmes to students, entrepreneurs and researchers, including investor readiness workshops, pitching events and funding awards.

Among SETsquared's successes is Epowar, a women's safety app for smartphones and smartwatches, co-founded by 2022 BSc Business Administration graduate Erin-Jane Roodt. Epowar generated over £90k in investment through working with the incubator.

"This is fantastic news, and high praise for all my colleagues across the SETsquared Partnership," says Andrea Kelly, Centre Manager at the SETsquared Bath Innovation Centre. "My team and I are excited to build on this affirmation and continue to nurture founders, foster collaboration and keep building our ecosystem where businesses can flourish."



OUR RESEARCH IN PARLIAMENT

Dr Rob Branston and fellow researcher Professor Anna Gilmore from the University of Bath's cross-disciplinary Tobacco Control Research Group (TCRG) gave expert evidence to the UK Parliamentary Bill Committee for the Tobacco and Vapes Bill in May 2024.

The Bill – which at the time had had its second reading and was being scrutinised by the Committee – aims to protect young people from harm caused by smoking, introducing measures such as banning the sale of tobacco to those born from 2009 onwards. Rob and Anna's evidence will help to make the Bill as strong as possible, supporting the Government's goal of creating a 'smoke-free generation'.

OUR RANKINGS

QS WORLD UNIVERSITY RANKINGS BY SUBJECT 2024:

Top 100 in the world for Business and Management Studies

QS BUSINESS MASTERS RANKINGS 2024:

Top 100 in the world for Management, Business Analytics, Finance, and Marketing

QS GLOBAL MBA RANKING 2024:

Top 50 in Europe

RESEARCH EXCELLENCE FRAMEWORK 2021:

93% of our research assessed as 'world-leading' or 'internationally excellent'

THE GUARDIAN UNIVERSITY GUIDE 2024:

Top 5 in the UK for Business and Management

THE COMPLETE UNIVERSITY GUIDE 2025:

1st in the UK for Marketing
2nd in the UK for Accounting and Finance

2nd for Business and Management Studies



WORKING FOR A BETTER WORLD

How School of Management academics are at the forefront of research to improve employment conditions, protect workers and stamp out modern slavery.

"Working conditions are often defined by institutions, but when you speak about dignity, it's usually defined by workers. What dignity means and what good working conditions are like should [both] be defined by the workers themselves," asserts Professor Vivek Soundararajan.

With 27.6 million people living under conditions of forced labour, according to the International Labour Organization, the issue of dignity in the workplace is perhaps more urgent than ever before. Vivek leads Embed Dignity, a research initiative based at the School of Management that aims to improve conditions across all facets of organisations.

He continues: "For instance, I've researched a new type of agreement that emerged against sexual harassment within garment industries, which a lot of brands and suppliers have signed. We're looking to understand what happened here and how, in a context where extreme forms of patriarchy persist, how women workers could actually come together and make brands and suppliers sign a particular agreement. I feel that this is a good example of why we should give [this voice] to workers, because many rights or standards may not always cover everything they see as being violated."

Vivek has been researching exploitation in global supply chains and how it can be addressed for more than a decade. His work has focused on a range of areas, including the garment and software industries in both India and the UK. One of his current research interests turns the lens to caste, a form of traditional social stratification in South Asia that has a pervasive socio-economic influence to this day.

"Caste shapes work and life experiences in India and wherever Indian diaspora lives," he explains, yet it's not a common area for academic publishing in management and organisation studies. "The dominant [social] groups are still in positions of power within universities and important academic roles. I know people who have written about caste and were told by reviewers that it is not an issue at all." To change this power dynamic, we need to bring people together.



Prof. Vivek Soundararajan



COMING TOGETHER

As part of an effort to address this, Vivek is one of the organisers of The Global Research Conference on Caste, Business and Society, an annual conference bringing together scholars in the field. The conference was held here at the School of Management in June 2024, bringing together around 50 attendees from across the globe to discuss topics such as the influence of caste on access to entrepreneurial finance, exclusion in the workplace and how business can result in tackle caste.

How elements of oppression fit together rather than standing alone is a key theme in Vivek's work. "For example, in our research, we are trying to change the way [people view] working conditions [to] a systemic issue," he says. This approach has also informed a recent project with Dr Pankhuri Agarwal, a Research Associate in the School and fellow member of Embed Dignity.

Vivek and Pankhuri were part of a team that investigated the aftermath of the 2020 Boohoo scandal, in which a *Sunday Times* exposé uncovered large-scale labour exploitation in the fast-fashion retailer's factories in Leicester. Authorities swiftly clamped down on the factories in question, and Boohoo moved its production abroad. The team spent four months in the city during

2023 carrying out interviews and focus groups with affected people, and what they found was that government interventions were essentially no more than a sticking plaster. "Most of the solutions for modern slavery are directed towards rescue and rehabilitation," Pankhuri asserts, "but nobody really knows what happens to these people after they're rescued."

For the people who had been working in these garment factories, their situation hadn't improved. While some, predominantly men, had found other work, this was largely precarious: "Many of them became taxi drivers or are working in food factories. A lot of the workers [are now] unemployed and have nowhere else to go."

Pankhuri notes that cultural and geographical factors also both play a role. Many of these unemployed garment workers are South Asian women, who lived in close proximity to the now-closed factories. Other factories are situated further from residential areas, making them unsuitable for women with childcare responsibilities or who lack suitable transport. What's more, it's not just employment they're now missing out on: for many of them it's also the sense of community and belonging that came along with it.



“The real idea was to bring people together.”

SENSITIVE SOLUTIONS

Government interventions may have addressed the immediate outrage of the human rights abuses being perpetrated in Leicester’s garment factories, but they have effectively stripped people of choices. Instead, Pankhuri believes that more should be invested in community-based solutions at a local level, such as women’s centres. More attention also needs to be paid to the wider social issues that render people vulnerable to labour exploitation in the first place.

“What happened in Leicester was not so surprising for someone who has been researching the issue,” says Pankhuri. “Also, in the context of the UK, it is surprising that these interventions did not actually talk about the root issues, such as the high cost of living, the energy crisis and Universal Credit. The whole target was to remove this imagined villain who is a slave master and to rescue the slaves.”

Dr Johanne Grosvold uncovered similar issues during a recent project on the intersections between climate change, modern slavery and public procurement. “The challenge that we came across was that there was not a great deal of understanding of what to do if you spotted modern slavery,” she says.

“A lot of people instantly, instinctively, think to call the police or include the authorities, but actually that can undermine it. If [the perpetrator] becomes aware of it, then they can just move the person to somewhere else.”

Johanne partnered with the Modern Slavery & Human Rights Policy & Evidence Centre, London Universities Purchasing Consortium and charity Unseen UK, as well as colleagues from the Universities of Sussex and the West of England, to carry out more than 70 hours of interviews with public sector procurement professionals.

“We talked to them about what their priorities were, what they think about modern slavery, how they see it as a problem, and the ways in which they are able to – and are finding it harder to – facilitate change,” she explains. She points out that, unlike the private sector, organisations in the public sector are able to team up via purchasing consortia. This means they are more able to apply pressure to suppliers to change their practices around climate change and human rights abuses – which then, Johanne believes, will have a domino effect that also has a positive impact on the private sector.



Dr Pankhuri Agarwal



Dr Johanne Grosvold

TURNING UP THE PRESSURE

The resulting research report and policy briefing were launched at a discussion and networking event for practitioners in London in February 2024. Some of the key recommendations arising from the project were the implementation of different forms of training for staff based on their role and likelihood of encountering victims of modern slavery; stronger tendering requirements for public sector contracts; and the introduction of processes to actively manage known risks, such as the electronics supply chain.

Johanne also argues that the UK Government needs to develop a clear mandate across the public sector to address the issue: “At the moment, I think in principle, you can be fined if you don’t have a modern slavery statement on your company’s

home page. But as far as I know, there haven’t been any fines handed out and so there isn’t much by way of direct concrete repercussions.”

“What the European Union is trying to do is to move beyond window dressing and to make it more incumbent on companies to supply data that enables you to see whether they are [addressing such issues],” she continues. “They’re trying to create accountability by increasing transparency.”

Professor Andrew Crane, Director of the School’s Centre for Business, Organisations and Society, agrees that modern slavery is a highly politicised issue. He calls attention to the fact that the wording of the UK’s Modern Slavery Act, which passed into law in 2015, was hotly debated: “If you are a child rights

organisation, if you’re protecting refugees, if your work is dealing with sex workers, if you’re dealing with domestic workers, do you want those types of actors to be included within this [new] category of modern slavery or not? And so my research looked at how different organisations framed what they were doing in terms of modern slavery to try to become a member of the category or to be excluded from it.”

He continues: “For businesses, they don’t really want to be associated with modern slavery, so it can often make sense to talk about how modern slavery is not about a business issue. But if you’re a child rights organisation, the first draft of the Act didn’t include children as a specific category, so there was an incentive to try to get them included.”

BREAKING DOWN DIVIDES

Andrew has been researching business and modern slavery for more than a decade, and has seen the field grow rapidly since his first paper in the discipline. “I tried to develop a business and management approach to modern slavery,” he explains. “I took it to a conference and I thought, ‘What are they going to say to this business person doing research about this?’ I thought they’d just laugh at me, to be honest, but it really struck a chord with a lot of people.”

In September 2023, Andrew brought together the largest ever gathering of business and modern slavery researchers and practitioners for Crossing Boundaries: The 2023 Business and Modern Slavery Research Conference, with over 80 academics and other experts in attendance.

“The real idea was to bring these people together,” he says. “The conference is called Crossing Boundaries because we wanted to cross a bunch of boundaries – between disciplines, between different ways of doing research, between research and practice.”

One example of this was the launch of Objective, a powerful photography exhibition that blurs the boundaries between art and research to communicate affecting stories. Created by former School of Management PhD student Emma Barnes-Lewis; photojournalist Amy Romer; and Maya Esslemont, director of human rights charity After Exploitation, it combines survivors’ first-hand testimony with images of their personal belongings.



Prof. Andrew Crane

“We want to help people develop better research, whatever that means,” concludes Andrew. “Whether it’s better in terms of its scholarly credentials, better in terms of its practical application or better in terms of its real-world impact.”



GEARING UP

Despite its global relevance, research into business and society remains frustratingly dominated by scholars in higher-income countries. Launched in spring 2024 under the leadership of Professor and Deputy Director of Centre for Business, Organisations and Society (CBOS), Vivek Soundararajan, our new, annual Global Early-Career Accelerator for Representation (GEAR) programme is working to change that.

CBOS ran the programme’s pilot for seven weeks across April and May. Through a weekly series of online sessions, the Centre’s academics guided early-career researchers in low-and-middle income countries through the development of high-quality papers for top journals.

Our 2024 cohort comprised 19 researchers from a wide range of countries, including Brazil, Colombia, India, Morocco, Pakistan and Tanzania. After completing the programme, participants were given the opportunity to apply for a GEAR fellowship, which will provide a term of in-person CBOS mentorship at the School of Management.

MAKING CONNECTIONS

How our academics' work is having an impact in industry.



SHAPING THE FUNCTION OF IAAPS

When the University established the £70 million Institute for Advanced Automotive Propulsion Systems (IAAPS) – a purpose-built facility for electric, internal combustion and hydrogen-based propulsion research – one of the key challenges was how to facilitate the creation of local networks around the space.

In 2016, Dr Felicia Fai and Professor Phil Tomlinson, Co-Directors of the School's Centre for Governance, Regulation and Industrial Strategy (CGR&IS), helped to shed light on what small and medium-sized enterprises (SMEs) in the automotive and aerospace industries would find most useful and attractive – which largely revolved around the opportunities to join networks.

Conversely, Felicia and Phil identified obstacles such as firms being 'unsure of what they might contribute' and 'unaware of the services IAAPS could provide' – which helped to shape the type of services offered by IAAPs and the marketing of the facility.

Thanks to these insights, the University was able to ensure that the facility's 2023 launch was supported by substantial amounts of outreach to the local business community. At Felicia and Phil's suggestion, the facility also appointed an entrepreneur-in-residence to facilitate the combination of academic expertise and commercial focus.

MAN AND MACHINE

Efficient logistics are absolutely key for UK trade, but surging costs and acute labour shortages are threatening the sustainability of the warehousing industry, where low margins and short contracts abound.

How can automation be used to make the industry more efficient? The Centre for Smart Warehousing and Logistics Systems (SWALOS) has paired with Internet of Things company Logidot to develop and optimise a prototype system for smart warehouses that will effectively combine manual operations with robotic elements.

This will include using artificial intelligence to track people, goods, vehicles and robots in real time, and to analyse their activity. This information can then be used to identify where and why time is wasted on unproductive workflows, and help to eliminate bottlenecks. In response to these insights, drivers, pickers and other workers can be re-routed dynamically – in coordination with conveyor belts or robots – to where they will be most useful.

Supported by an Innovate UK Smart Grant, the partnership grants our researchers access to a flagship Warehouse of the Future, which will provide a facility for testing and refining the prototype under real-world conditions.

INVESTING IN INNOVATION

Research and development (R&D) is not only risky but also costly, with significant amounts of investment required to yield innovation. The government invests in business R&D and innovation through Innovate UK, but what is the impact of this type of investment? Is it a worthwhile use of public funds?

Dr Chris Dimos from the Centre for Governance, Regulation and Industrial Strategy (CGR&IS) was commissioned by Innovate UK – which has disseminated more than £2.5 billion in grants since 2004 – to deliver a report on the topic.

His research, carried out with Professor Tim Vorley, Pro Vice-Chancellor and Dean of Oxford Brookes Business School, examined Innovate UK and Office for National Statistics data covering 2008-2019. What they uncovered was not only that Innovate UK funding can increase the private R&D investment of recipient businesses over and above what they would spend in the absence of public funding, but also that this funding translates to an increase in a business' gross value added (GVA).

What's more, once the wider positive impacts further along supply chains and household income are considered, each £1 of Innovate UK funding actually translates to £6.21 of GVA to the UK economy over a seven-year period.

BETTER OFF BUNDLED?

Our research is helping to untangle the side-effects of EU legislation on financial markets.



To make sound decisions, investors need information on markets – so analyst research is crucial. This research has traditionally been produced as part of a bundle of services provided by sell-side brokers, with the costs passed on to investors. However, with limited transparency, there's a risk that brokerage firms could produce excessive amounts of this 'free' research, thereby driving up their costs unnecessarily.

In a bid to counter this, the European Union introduced the Markets in Financial Instruments Directive II (MiFID II) in 2018. This legislation was intended to increase transparency around the pricing of brokers' services, impelling analysts to charge separately for research and trading.

However, as academics from our Accounting, Finance and Law division have revealed, its effects have unexpectedly backfired. In fact, the UK's Financial Conduct Authority estimates that research budgets were cut by 20-30% as a result.

"MiFID II was a laudable attempt at improving transparency for clients, who could now see what research they were paying for and its cost alongside the regular bills for trading stocks and shares," explains Dr Ru Xie. "But many brokers, under fierce competition with each other to attract clients, were forced to absorb those costs themselves, meaning that they reduced the amount of market research they provided to clients."

Before and after

Ru, along with Professor David Newton, Dr Anqi Fu and academics from the Saïd Business School, University of Oxford, examined data from the London Stock Exchange (LSE) spanning from 2015 to 2020 – three years either side of the implementation of MiFID II.

The team compared the market reactions of firms listed on the LSE's Main Market with those on the less-regulated Alternative Investment Market (AIM) – essentially contrasting the impact of the legislation on larger companies with the impact on small and medium-sized enterprises (SMEs).

They found that the Main Market experienced an estimated 12% drop in analyst coverage, which negatively affected market liquidity: the average number of analysts providing research to each firm fell from 9.1 to 8 over the period studied. However, research coverage for the AIM did not experience such a drop.

"The reasons for this are twofold: as the demand for research for large companies fell, there was a flow of analysts to the less-populated market," Ru explains.

"However, the more significant factor may be a special feature of the Alternative Investment Market, which requires companies to retain a 'nominated adviser'."

These advisors, known as NOMADs, are corporate advisors that can provide research coverage as well as acting as brokers. Thanks to close relationships between NOMADs and the firms they are associated with, information-sharing channels are stronger and the overall quality of research is better. This appears to have cushioned companies listed on the AIM against the adverse effects of MiFID II that were suffered by those on the Main Market.

"MiFID II's unbundling had the objective of clarifying financial transparency, but it may have inadvertently obscured the information pathways it sought to brighten," adds Professor David Newton.

Ru concludes: "Our research supports a growing understanding in the UK and the European Union of the unintended consequences of MiFID II and its negative impact on stock market liquidity."



HEALTHY NUMBERS

9 ways our researchers are using data to improve healthcare.

"The UK's National Health Service (NHS) is facing unprecedented strain," explains Professor Christos Vasilakis, Director of the Centre for Healthcare Innovation and Improvement (CHI²). "Services and staff are stretched to the limit, and demand is ever increasing. Healthcare innovation and continuous improvement are needed now more than ever."

Research at the School of Management is taking a multi-disciplinary approach to health. We're bringing operations management, operational research and information systems research together with hands-on partnerships with clinicians and hospital leaders to solve real-world problems.

We're one of five universities in south-west England and Wales to have formed LEAP (Leadership, Engagement, Acceleration & Partnership), a new £4.11 million digital health hub aimed at sparking collaboration and research across the region.

"LEAP represents a significant milestone in advancing digital health capabilities in the south west of England and Wales. By leveraging the collective expertise of academia and industry partners, we are really excited to be part of an effort with the potential to unlock new avenues for research, innovation, and partnership, ultimately enhancing the region's healthcare ecosystem," says Christos.

Read on for just a handful of the ways in which we're using data to enable better decision-making, evaluate treatment effectiveness and give patients the best possible experience.



"By leveraging the collective expertise of academia and industry partners, we are really excited to help unlock new avenues for research."

1 SMOOTHING THE COVID VACCINE ROLLOUT

The mass vaccination centre at Bristol's Ashton Gate stadium administered over 235,000 Covid-19 immunisations during its nearly seven months of operation in 2021 – an average of more than 1,000 people per day. With social distancing paramount, experimenting with interventions to keep things running efficiently was risky in a real-world setting. Professor Christos Vasilakis worked in tandem with Bristol, North Somerset and South Gloucestershire Integrated Care Board, using data on processing times collected over a three-month period in early 2021 to develop a computer model that can simulate throughput and identify bottlenecks. The model proved especially useful in helping to set daily booking levels – with the optimum number to avoid congestion found to be a full 20% less than initial proposals.

4 IMPROVING FLOW BETWEEN CARE SETTINGS

One in five patients requires community care after a hospital stay, particularly older, vulnerable individuals. The NHS funds a six-week Discharge to Assess period for these patients, facilitating assessments for long-term social care needs. However, many face hospital discharge delays due to a lack of downstream service capacity. To determine the necessary provision within this six-week window and prevent patients from being stranded in hospitals, Dr Zehra Onen Dumlu and Professor Christos Vasilakis worked with the University of Exeter and the NHS to develop the Improving Patient flow between Acute, Community and Social Care (IPACS) simulation tool. This models how capacity constraints can impact the flow of patients between care settings and how much capacity is needed for a particular timeframe, and can handle different 'what if' scenarios to look at the impact of factors such as demand and length of stay.

2 INCREASING OPERATING THEATRE USAGE

Cleanliness is, of course, one of the most important characteristics of an operating room, but need it come at the expense of patient waiting times? Typically, patients are prepared and anaesthetised for surgery in the theatre itself, but adopting a 'parallel processing' model – in which they are prepped in a separate space while the operating room is turned over between procedures – can minimise downtime. Dr Melih Celik and researchers from TED and Bilkent Universities in Turkey analysed data from a large teaching hospital and used this to produce a stochastic programming model to schedule operating room times in this manner – showing an average of 40% reduction in operating room idle times.

5 QUANTIFYING PARITY OF CARE

In theory, the UK's National Health Service offers all residents equal access to healthcare. But is that true in practice? Professor David Ellis, along with researchers from the University of Glasgow, University of Aberdeen and Public Health Scotland compared data from 80 GP practices in socioeconomically deprived areas with 70 practices in more affluent areas. While they found that patients in more deprived areas had slightly more individual instances of contact with their GP, they actually had slightly less total contact time. Once those with multiple long-term health conditions were taken into consideration, the differences widened significantly to an average of 14% more contact time for those in less-deprived areas – suggesting a need for a redistribution of resources.

3 HELPING KEEP PEOPLE UNDER MEDICAL CARE

Missed appointments are a huge challenge in healthcare, with around 15 million GP appointments wasted per year. Analysis from Professor David Ellis of over 500,000 patients' appointment histories over a three-year period found that those who missed an average of two or more GP appointments per year were at least three times more likely to miss other outpatient appointments. Essentially, they stayed 'missing' from healthcare. How can attendance be improved? One intervention could focus on timing. A further study from David, carried out with the University of York and London School of Economics and Political Science, examined the impact of moving appointments in a community mental health clinic to later in the week – which, they found, increased attendance by 10% over the course of a year.

6 PLANNING CARE SERVICES FOR THE FUTURE

How can you set out an effective strategy for healthcare provision if you don't have a solid grasp of the needs of your local population? Professor Christos Vasilakis and Dr Zehra Onen Dumlu are working with NHS Bristol, North Somerset and South Gloucestershire Integrated Care Board to create a tool to model the characteristics of the area's 750,000-plus adult residents. The tool groups people into five distinct core segments according to their current health conditions. A mathematical model then takes yearly steps into the future to estimate how many people will be in each segment and the related costs. As a result, it will enable policymakers to make informed predictions and allocate spending appropriately.



7 SPEEDING UP CHEMOTHERAPY DELIVERY

The number of new cases of cancer worldwide is expected to increase to more than 23 million by 2030, so it's more important than ever to have efficient scheduling tools for the complex process of chemotherapy delivery. Dr Melih Celik and colleagues from TED University in Turkey and Wayne State University in the United States carried out a study into the actual infusion times for more than 200 chemotherapy patients, comparing these to the estimates used when setting the appointments. What they found was that the durations of shorter infusions tended to be underestimated, and longer ones overestimated. They used these findings to build a predictive model that can reduce patient waiting times by 80% and nurse overtime by over 30%.

8 MANAGING ICU BEDS

During the Covid-19 pandemic, healthcare workers had to make difficult decisions about which patients to admit to intensive care units as hospitals were squeezed to breaking point. Professor Christos Vasilakis worked with local hospitals to develop a simulation model to identify key factors that would reduce deaths due to lack of ICU capacity. The team found practical interventions such as reducing the length of patients' stay in the unit by 25% could reduce these deaths by as much as 75% – and were also able to use the model to indicate how much the ICU's capacity should ideally be increased by. The tool was shared for free with healthcare providers across the country.

9 COMPARING BEST-CASE WITH REALITY

Ideally, under the NHS' Talking Therapies programme, people with common mental health conditions are offered 'stepped care' – where treatments escalate in intensity as is clinically appropriate. But does this always happen in reality? Working with local healthcare technology company Mayden and using process mining to analyse and visualise information from anonymised individual patient referral records from two sites spanning two years, Professor Christos Vasilakis and research assistant Lizzie Yardley modelled patient flow through the programme. Overall, they found that less than 5% of referrals actually experienced stepped care. Taking this bigger-picture approach also enables bottlenecks in the system to be identified and hopefully addressed, such as longer waiting times for those who ended up discharged from the programme rather than commencing treatment.

STEPS TO EQUALITY

Research to make the workplace a more positive environment for LGBTQ+ employees.



The 2021 census of England and Wales revealed that 3.2% of the population aged 16 and over identify as lesbian, bisexual, gay or other (LGB+) – totalling over 1.5 million people – and that more than 0.5% of people identify with a different gender to the one they were assigned at birth. Sadly, statistics from charity Stonewall show that 35% of LGBT staff have felt the need to hide their sexual orientation at work for fear of discrimination. Even worse, 18% have been the target of negative comments or conduct from their coworkers as a result of their identity. This needs to change.

Dr Luke Fletcher, Associate Professor in Human Resource Management, has previously found that the experience of authenticity at work is important for LGBTQ+ workers' wellbeing and that supportive organisational policies and practices can facilitate this. More recently, he has examined how the framework of authentic leadership – being self-aware, transparent and guided

by your own moral compass – can increase LGBTQ+ managers' enthusiasm and a sense of connection to their careers. "When LGBTQ+ people take on managerial and leadership positions, they can feel uncomfortable and unsure about their leadership capabilities," says Luke. "They may be worried about being too visible, or too open about their LGBTQ+ identity, and they may feel they have to conform to traditional views around what constitutes a good leader."

The study, carried out with Professor Shaun Pichler from California State University and Dr Lakshmi Chandrasekaran, initially surveyed a total of 400 professionals in management roles on their self-confidence and leadership behaviour. Participants later completed a further survey on their career satisfaction. The managers whose leadership style aligned most closely with their own values reported the greatest satisfaction. This beneficial effect was most pronounced among the LGBTQ+ participants.

Forge your own path

Other research from Luke, in partnership with Dr Caroline Essers at Radboud University, examined how LGBTQ+ entrepreneurs felt about running their own business. The team found that negative workplace experiences had motivated some to found their own start-up.

Luke explains: "For some of [our interviewees], coming out as gay and deciding to become an entrepreneur were closely linked to the concept of freedom. They felt they needed to hide their identity in their former careers, to avoid possible barriers and negative employment consequences, and believed that becoming self-employed would enable them to express their authentic self."

The entrepreneurs surveyed did feel they had to battle stereotypes of entrepreneurs as masculine, heroic and strong; however, some also took great value in aligning their sexuality with their entrepreneurship. "By building and sharing knowledge and

experiences across the LGBTQ+ business community, we can empower and enable people and their businesses to thrive," asserts Luke.

Along with collaborator Dr Rosa Marvell from the University of Portsmouth, Luke was commissioned by the CIPD, the UK's professional body for HR, learning and development, to produce guidelines on workplace inclusion for transgender and non-binary staff members.

The report included many concrete recommendations for employers, such as being aware of the manifold ways in which transphobia can manifest, providing high-quality training to managers, and normalising the benefits for all staff of sharing pronouns.

"LGBTQ+ inclusion is a journey of professional and organisational development," summarises Luke. "We need to treat it as an opportunity for continuous learning."



IN STORE NOW

How psychology and technology work together to entice you to the tills – and the Bath research examining the interplay.

“I've never really trusted research that doesn't contain field data.”



“The store is a perfect lab,” explains Professor Jens Nordfält, Co-Director of the Retailing and Contemporary Consumerism Research Lab – otherwise known as the Retail Lab. “I've never really trusted research that doesn't contain field data, because it's so easy to manipulate or to shut out all the confounding variables and get some detailed result that never would come through in reality.”

Established in 2018, the Retail Lab brings together nearly 20 academics with a wealth of experience from across the School of Management, including Co-Director and marketing expert Professor Nancy Puccinelli. The Lab aims to break down divides between academia and retail, by carrying out research that can benefit business in the real world.

“One thing that we're really trying to achieve is to get all the people who are part of the Lab involved in the different projects,” asserts Jens. “We want to enhance teamwork and not leave people working in isolation. We try to build a research culture that's based on us collaborating with the companies that we are in contact with to get the very best publications possible.”

One of the Lab's flagship initiatives is its MSc in Strategic Retailing, which welcomed its first cohort in September 2023. The course draws on relationships with household names such as IKEA, Uniqlo and H&M. “It's very good for the students to get to see what their knowledge can be used for in the real world, and it also gives us data” says Jens. “Some partnerships are only on an educational level, but others are more at the research level. We also collaborate very much with Swedish grocery retailers, because that's where I have a store.”

Pushes to purchase

Much of the Lab's research revolves around the in-store environment and the impact it has on the purchases that we make – whether that's the layout of the aisles, the merchandise itself on offer or the way in which it's displayed to customers.

For instance, a recent paper from Jens and fellow Retail Lab member Dr Carl-Philip Ahlbom offered a practical guide for how retailers can most effectively use eye-tracking technology to generate heatmaps that demonstrate which elements in a store grab the most attention. Their research with Professor Dhruv Grewal, another Retail Lab academic, has shown several effects such as that shoppers using smartphones while shopping spend 40% more on average, that installing digital signage in a store can increase revenues by 17%, and if a couple of

the digital signs are replaced by projections then sales go up even more.

Indeed, Jens identifies the creeping influence of technology as one of the biggest factors impacting the current retail landscape. “The first big shift was when people moved from paying with cash to paying with cards,” he says. “That increased spending quite a lot because you don't really pay attention to how much you spend. It used to be the case that if you brought £20 to the store, that was your budget. Then all of a sudden, you had all the money in your bank account with you.”

Jens, Dhruv and Carl-Philip went on to investigate the impact of handheld self-scanners on shopping habits. The results demonstrated a 13% increase in spending when people scanned their own groceries as they made their way around the store.

Hands-on time

“One factor was that they enjoyed shopping more, and as soon as they enjoy shopping, people tend to spend more,” Jens explains. “They also interacted more with the packages, because you need to find the barcode. We actually found that purchases of healthy options increased by 4%, which suggests that people buy healthier food if they use handheld scanners.”

Jens suspects that self-checkouts, however, have the opposite effect on sales: people buy fewer items, because they try to carry items in their arms or use a basket rather than a large trolley. “You sort of downsize because you don't see it as a real shopping trip,” he says.

The future of retail, though? From a technological standpoint we already see wholly unmanned stores, where the items you pick from the shelves are monitored by cameras and AI, and your card is automatically charged when you leave the shop. Jens points out that these were gradually brought closer to reality over the past 30 or so years by advances in technology. While the idea of a fully automated shopping experience might feel cold, it sometimes makes undeniable business sense: “The biggest cost driver is staffing – it's approximately half the gross margin in any retail store, whether that's fashion or furniture or groceries. So as soon as you can, you try to reduce that.

“The whole supply chain, except the final stage, has been automated, but [unmanned] stores have now also managed that,” Jens continues. “The only human factor is the customer. I don't know if that can be automated as well, with robots eating the produce!”

SPOTLIGHT ON: FUTURE OF WORK

Professor Yasin Rofcanin, Research Centre Director, shares his hopes for practitioner engagement, predictions for AI in the workplace and why you should put down your phone during family time.

“As employees, we should be focusing on our own strongest elements.”



What are your own current research areas?

My research usually revolves around two areas: work and non-work life. The first includes areas such as HR management, job crafting and strength use – the idea that as employees we should be focusing on our own strongest elements.

The second focuses on how we as potential employees can seize the opportunity and maximise the benefits that we obtain from our non-work life in relation to work.

How can we integrate fun and competition in our work? How can we integrate an element of playfulness in to our family life so that our work lives become more productive and more motivating? How do things like self-care, sleep quality and exercise affect us in the workplace?

How and when did you first get involved with the Future of Work Research Centre?

My involvement dates back to 2017, when I became the Centre's Deputy Director. After a year, I became Co-Director alongside Professor Nancy Harding for two years.

From 2020 onwards, I remained an active part of the Future of Work, and as of September 2023 I am its Director. I'm looking forward to taking its successes forward for future years.

The main attraction point of the Centre for me, initially, was the chance to develop its outreach externally and support a research culture internally within the School of Management.

Where do you see the Centre's future direction?

I think the research centre that I'm crafting and developing sits at the intersection of research and practice in the future. It's got a very strong, hands-on approach in terms of supporting, facilitating and running sessions, workshops and events that are research-oriented, but on topics around new and hybrid ways of working.

So there's a research element, but there's a practitioner side to it as well now. I'm trying to establish and strengthen our relationships, and so far we've held events about AI's impact on HR management practices, and practitioner-oriented talks and seminars, as well.

I think because of the nature of the Centre and the topics that it touches upon, it's research driven, but we can then also use that evidence to impact on practice.

Tell us about some of the recent research coming out of the Centre.

We've published a really interesting paper called 'The More You Connect, The Less You Connect', which examines the impact of 'phubbing' (when you ignore someone in favour of your phone or other devices) at home and the effect it has on your dynamics with your significant other. We then carry this with us from the home to the work domain.

Our study showed that over time when people distract their attention from the other party to their phones, this impacts negatively on their exchanges with their partner. That negative impact is taken with you to work, where you're less able to craft your job: your distraction and depleted energy at home are reflected in your work domain as reduced cognitive job crafting and creativity.

What effects do you think artificial intelligence is going have on the way we work?

It will manifest in different ways. You can talk about the emergence of, for instance, big data and analytical tools, but there are different windows through which we can understand the impact of AI or other technologies. I think the more monotonous and repetitive tasks of every job will be facilitated. But for the more creative and innovative side of work, I think the trick will be in how you use the right prompts as triggers for AI tools to accelerate your output – and I think everybody has started to learn those skills. It will be the form and the nature of questions that you'll be inputting that will create the impact.

I've experienced that positive impact when developing the presentation slides for some of my classes, for example. If I've come up with the basic content, I can then use trigger questions to generate the case studies. This then gives me more time to read and reflect on the discussion points.

I think with AI, we're already test crafting our jobs, but in the future we'll have more time to redefine the boundaries of what we are doing cognitively – so more cognitive job crafting. We'll also have more time for meaningfully investing in our professional relationships, nurturing and developing those professional networks.



EMERGING FUTURES

In May 2024, the Future of Work Research Centre brought together 35 academics, policymakers and practitioners for a one-day workshop, titled Empowering Youth in a Changing World of Work. Chaired by Professor Yasin Rofcanin, Professor Juani Swart and Dr Farooq Mughal, the event explored the opportunities and challenges facing young people today as they transition between education and employment – including diversity, social mobility and supportive interventions – through presentations, panel discussions and breakout networking sessions.

AN EMOTIONAL JOURNEY

Examining how professionals' feelings towards their careers shape and transform as they progress.

How often do you consider your career in terms of the emotions it elicits? A new study from Dr Stefanie Gustafsson and Professor Dan Kärreman (Copenhagen Business School) demonstrates that those in the legal profession go through four distinct stages as they move up the ladder, each characterised by different primary emotions and socio-emotional dynamics.

Over time, through a combination of organisational career practices and interactions with partners, lawyers become increasingly invested in the firm, develop emotional attachment to the partnership and regulate their aspirations and behaviours.

"There is a lot of literature around individual career management strategies and organisational promotion practices, but we were interested in the 'felt' experiences and exploring the emotional aspects of employment," says Stefanie, a member of the Future of Work Research Centre and Director of Studies for the School's PhD programme. "Professionals' careers are suffused with emotions – some of the lawyers we interviewed used phrases like 'love' when talking about partnership and felt great pride when being promoted."

The qualitative study involved a total of 50 interviews with lawyers and HR professionals

working in law firms of various sizes across London and the south west of England. The questions focused on the interviewees' experiences of becoming a firm partner, and their answers showed strong common themes of a progression from rose-tinted glasses through to eventual disillusionment.

Stefanie also believes that these learnings could be applied to other top careers. "HR departments and line managers should consider developing coping skills and providing support in professional cultures where success is celebrated but failure is frequently stigmatised," she adds.

FEELING THIS: THE UPS AND DOWNS

1 Excitement and anticipation

Embarking upon a legal career is accompanied by positive emotions, with aspiration at an all-time high. New law graduates see partnership as the ultimate goal, and view the partners in their firm as supportive mentors who can advise and guide them. As a result, they develop strong positive associations with the role and their career.



3 Pride and joy

Once lawyers make it to partner level, they feel like they've 'won the glittering prize', and talk about feeling proud and joyful. Over time, the emotional bond with the partnership has deepened and by being promoted, the collective interests of the partnership are emphasised.



2 Fear and anxiety

When a lawyer is being considered for promotion, their emotions intensify and take a turn to the negative. They experience anxiety, uncertainty and projective shame in anticipation of failure. Partners are now seen as gatekeepers and lawyers spend their days on tenterhooks and regulate their behaviours.



4 Disillusionment and disappointment

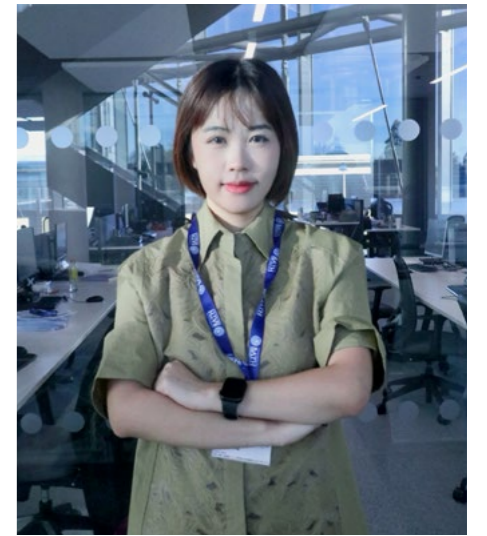
In the longer term, euphoria gives way to prolonged pressure to perform, continuous regular performance evaluations and ongoing scrutiny by fellow partners. As one interviewee described it, "It's like wading through treacle to get to the promised land and finding [...] just more treacle".



"When a company faces higher climate change risk, they tend to misreport their financial statements."

MINGRAN ZHANG is a first-year PhD Management student in our Accounting, Law & Finance Division.

She tells us about her research so far and explains how climate change and financial reporting behaviour show a surprising correlation.



"My current research is studying how firm-level climate change exposure affects companies' financial misreporting behaviour. Following the introduction of the Paris Accord in 2016, there are increased concerns and awareness about climate change in the business world.

"This risk falls into three categories. The first is physical risk, which comes from the direct negative impact that factors such as an increase in sea level or higher temperatures may have on companies' property values, municipal-bond yields and underwriter fees.

"The second is transition risk: the capital market requires more green stock, which has fewer greenhouse emissions. This means that when we approach the 2050 deadline for carbon neutrality, some companies face higher challenges in transforming from high emissions to low.

"The third is regulatory risk: the financial and operational risks businesses face due to the increasing likelihood of changes in laws, regulations and policies as governments worldwide respond to the challenges of climate change. For example, the European government has issued policies around emissions quotas. Essentially, if you want to pollute more, you'll have to buy an additional quota from another company, which will increase your costs – or if you fail to obey the regulations, you'll face a lawsuit.

"Before narrowing down a specific research topic, I proposed many ideas to my supervisor, Professor Dimitrios Gounopoulos, and he helped me in assessing and analysing each topic – including the availability of data, the feasibility of each topic and the potential for publication.

"I think the quality of financial reporting is very important due to information asymmetry: companies' management are the ones who hold the most information. Shareholders, creditors and governments all rely on reporting to gain insight into firms' financial performance and then make informed decisions.

"If the quality of this reporting is questionable, transparency in the capital market decreases and the effectiveness of investments can decrease. As a result, I decided to explore why and how companies tend to alter their financial reporting behaviour when they face higher firm-level climate change exposure.

"So far I've examined financial reporting behaviour from two perspectives: the legal and illegal ways by which firms manipulate their reporting. The legal way is through earnings management, whereas the illegal way is intentionally misreporting financial figures, known as financial fraud.

"After analysing the regression between climate change exposure and fraud indicators, we find companies facing significant exposure to climate change are more likely to misreport their financial statements. Our empirical findings remain robust across various tests, including alternative regression models, alternative measurement, matched-sample analyses and difference-in-difference regression.

"I also found that where US stock market firms were investigated and prosecuted by the Securities and Exchange Commission over the past two decades, when they then face higher climate change risk, they reduce intentional misreporting.

"We have extended our analysis to explore the mechanisms underlying this correlation using the fraud triangle. From the 'opportunity' perspective, our findings suggest that climate change exposure decreases accounting comparability. The variation in financial reporting due to disparate responses to climate-related risks can obscure financial statements, making it challenging for external parties to identify inaccuracies or anomalies. This reduced transparency increases the opportunity for financial misreporting.

"Our results also indicate that companies with greater exposure to climate change experience significant financial distress, characterised by higher cashflow shortfalls, diminished revenue-generating capabilities and increased risks of insolvency. These pressures align with the 'pressure' component of the fraud triangle, suggesting that companies under severe financial stress due to climate change are more likely to engage in misreporting. This misrepresentation may serve to appease stakeholders, secure financing, or align with market expectations, further emphasising the role of financial pressures as a catalyst for misreporting behaviour.

"Climate change risk is obviously a very topical issue around the world. In June 2017, the Financial Stability Board Task Force on Climate-related Financial Disclosures released its recommendations on disclosure requirements on financial institutions.

"Our results suggest that regulators should consider further standardising climate risk reporting and increasing their scrutiny of companies in high-risk industries or regions prone to the effects of climate change. This would ensure that financial statements more accurately reflect the economic realities companies face, thereby enhancing investor confidence and promoting more sustainable business practices."

LEADING PUBLICATIONS

Recent publications from our academics in AJG4 and 4* journals.

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