CUHK BUSINESS



Cultivating an innovation mindset to stay ahead

While artificial intelligence, blockchain technology, and alternative fundraising revolutionise modern business, what can companies do to foster innovation?

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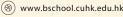
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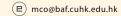
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THIS ISSUE: CULTIVATING AN **INNOVATION MINDSET TO STAY AHEAD**

In the rapidly evolving landscape of modern business, cutting-edge technologies have disrupted traditional practices and opened up new avenues for growth. Amid this transformative wave, companies must actively foster an environment that nurtures innovation. Explore our revolutionary findings on the current landscape of business strategy.



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Harmonising profitability and sustainability to thrive in the new green era

Since its debut in the 1960s, the concept of environmental protection has transcended from a plea for action on climate change to a myriad of sustainability pursuits over the past few decades, reshaping the way we live and conduct business. While considerable progress has been made, new challenges are on the horizon.

According to the World Economic Forum Global Risks Report 2024, extreme weather events are predicted to be the greatest risk to humanity over the next decade. However, a recent study conducted by a global organisation found that only 21% of executives in the Asia Pacific region ranked climate change as a boardroom priority. Against the backdrop of looming economic and geopolitical headwinds, what lies ahead for sustainability?

To illuminate the path forward, Professor Sean Zhou, an international award-winning researcher in sustainable operations and chairperson of the Chinese University of Hong Kong (CUHK) Business School's Department of Decisions, Operations, and Technology, joined alumni Harold Yip (BBA in Marketing 1987, EMBA 2001), a recycling pioneer and co-founder of Secure Information Disposal Services Limited and Mil Mill, and Chester Cheng (IBBA 2019), an intrapreneur and cofounder of a leading green lifestyle reward platform, Carbon Wallet, a subsidiary of MTR Lab, to discuss the difficult questions on how sustainability and profits can coexist.

The genesis of impact: cultivating sustainability from within

Maximising profits and optimising operations are inherently imperative for businesses, as boards are held accountable to their shareholders. While sustainability is important, green endeavours inevitably come with a price. Faced with this fundamental paradox, Chester believes that it is key for companies to identify the "sweet spot" between profits and sustainability.

"The first thing to do is establish a business purpose that meaningfully connects with human society and the planet," says Chester. "You will also need to develop a compelling business case to justify the 'green premium' that the green transition demands. Stay ahead of the emerging trends, identify major threats and transform them into opportunities."

A novel business beyond business

As a green entrepreneur, Harold adopts a different approach to intertwining environmental issues and business opportunities. "In



▲ Chester Cheng (IBBA 2019), Co-founder of Carbon Wallet a subsidiary of MTR Lab



A From left: Professor Sean Zhou, Harold Yip (BBA in Marketing 1987, EMBA 2001), and Chester Cheng (IBBA 2019)

Hong Kong, over 2,000 tonnes of paper waste are sent to landfills daily. I felt we could both tackle the environmental task at hand and potentially make it a win for our business, as well," recounts Harold.

In 2009, Harold established Secure Information Disposal Services Limited, a confidential document recycling and processing company. The first enterprise of its kind in Hong Kong, the company aims to alleviate the burden on landfills while fostering a circular economy for the paper industry. A decade later, he founded Mil Mill, the first tetra-pack recycling pulp mill in Hong Kong. Being the destination



Harold Yip (BBA in Marketing 1987, EMBA 2001), Executive Director of Secure Information Disposal Services Limited

for a novel recycling effort in the city, the pulp mill serves primarily as a centre to educate the public on waste reduction. Harold's unwavering commitment to driving a sustainable future has been well received, and despite the challenges in recent years, including COVID-19, his businesses have continued to thrive.

"Sustainability is an intricate ecosystem, and structural diversity is of paramount importance," says Professor Zhou, who has dedicated over a decade to researching sustainable operations and supply chains. "Businesses of all sizes play different yet equally important roles. The essence of the circular economy model lies in managing end-of-life products through recycling, reusing and remanufacturing," explains Professor Zhou. "Large corporations can scrutinise their production processes and supply chains to identify gaps for improvement in sustainability. Due to their scalable operations and influence, this can create a significant impact. They can also stimulate market demand for sustainable products and services. On the other hand, small and medium-sized enterprises (SMEs) and start-ups can leverage their inherent agility and innovative acumen to develop new business models that larger corporations and governments can emulate."

With growing environmental awareness, investors and consumers have become increasingly wary about the sustainability claims made

In the grand ecosystem of sustainability, everyone counts

Trust: a cornerstone of sustainable engagement



A Professor Sean Zhou, Chairperson of the Department of Decisions, **Operations and Technology, CUHK Business School**

by businesses. An analysis conducted by a leading professional services network indicates that investors are more sceptical than ever when evaluating a company's sustainability performance. To rally collective efforts from the public to live green, Harold firmly believes that trust is the bedrock principle.

In 2009, Harold integrated radio frequency identification (RFID) into the recycling operation of his waste management business. Through this trailblazing transformation, the process became

unprecedentedly visible to the public. "Seeing is believing," Harold underscores. "Enhancing transparency and traceability is pivotal for building trust."

Rethinking the green narrative: from fright to fun

While trust forms the basis for businesses to cultivate a virtuous cycle with consumers, Chester believes that the key to inducing behavioural shifts toward a sustainable lifestyle is to build an intriguing narrative that resonates with consumers. "Rather than focusing on the environmental hazards," Chester remarks, "we have to demonstrate that living a green lifestyle is fun, easy and pleasant."

Offering a first-hand account, Chester develops a digital platform that brings together governments, enterprises, green groups and citizens to promote low-carbon living. "I believe action inspires action. When consumers are rewarded for embracing green living, we are driving demand for sustainable products, thereby motivating businesses to make more commitments to sustainable development," Chester says.

Sowing the seeds for a sustainable future

Sustainable development is moving toward a new stage, and Professor Zhou encourages aspiring leaders and young professionals to take the reins. "In my lectures, I regularly address the topic of sustainability to plant a seed in the students' minds," he says. "One day, when they become business leaders, whether in large companies or start-ups of their own, I hope that they will envisage their impact on the environment and society and make responsible decisions."



▲ From left: Lavanya Anthwal (GLEF, Year 3), Professor Sean Zhou, Harold Yip, and Chester Cheng

Alvs. humans: Who wins in handling service rejections?

New research shows chatbots can help reduce general preference for human agents



There will come a time when personal interaction in handling customer services becomes obsolete. And that time might be sooner than we thought. Companies have increasingly adopted artificial intelligence (AI)-powered chatbots to handle customer requests, leading to improved service management, reduced labour costs, and the efficient delivery of standardised services. But, what is the catch?

According to the latest report by Spherical Insights, Global Chatbot Market, the market size of global chatbots reached US\$5.39 billion in 2023, and it is projected to surge to US\$42.83 billion by 2033. As chatbots continue to rise in prominence, it is crucial for companies to gain a better understanding of customer reactions to the services provided by this advancing technology.

Chatbots are designed to handle customer requests in a standardised manner, relying on preprogrammed procedures and algorithms. "Indeed, consumers often have an aversive attitude toward services provided by robots because they perceive that robots lack uniqueness and empathy," says Shen Hao, Professor of the Department of Marketing at the Chinese University of Hong Kong (CUHK) Business School.

However, the service from chatbots does not always carry a negative connotation, especially when companies have to reject consumer requests, which is sometimes unavoidable. "Our research finds that when consumers receive a rejection of their service request, they evaluate the service less negatively if the service is handled by a chatbot agent versus a human agent," Professor Shen says.

In a new study titled The rise of chatbots: The effect of using chatbot agents on consumers' responses to request rejection, Professor Shen and Professor Xiong Ji of the Southwestern University of Finance and Economics, Professor Yu Shubin of BI Norwegian Business School, explored how and why consumers react differently when their requests are declined by a real person or a chatbot.

Low expectations from chatbots

Chatbots are anticipated to offer highly standardised services characterised by clearly defined steps and minimal outcome variability. "They are considered less able to cater to consumers' personal preferences," says Professor Shen, "As a result, consumers tend to have low expectations about the level of flexibility in service from chatbots."

Drawing on their observations, the team proposed that a rejection of a service request is less likely to negatively impact consumers' evaluation when handled by a chatbot. Furthermore, they also suggested that consumers may have less appreciation for chatbots as they perceive them as mere rule-followers when processing requests.

To test their hypotheses, the researchers conducted a series of experimental and field studies. In the first three studies, they found evidence that consumers' evaluations are less negative if a chatbot rejects their requests compared to a real person. Study 1 consisted of a questionnaire survey through Prolific, an online platform for global participant recruitment, while studies 2 and 3 further supported the researchers' assumptions using real-life scenarios.

Participants in study 2 were 200 university students in South China, who received gift vouchers from a fictitious company. They had the option to contact either an Al-powered chatbot or a human representative to redeem different gifts if they didn't like the default one. However, all participants ended up receiving the default gift. Following this, the participants evaluated the service through a questionnaire. As expected, they show a greater level of acceptance towards service rejection from a chatbot.

Study 3 was also conducted in China and, due to the scenario's design, involved only female participants. This study further indicated that consumers showed fewer negative attitudes toward the company when their request was rejected by a chatbot.

66 When consumers receive a rejection of their service request, they evaluate the service less negatively if the service is handled by a chatbot agent versus a human agent. 99

— Professor Shen Hao

Emotional apologies can fall short

While the use of chatbots in rejecting service requests can mitigate negative impacts, the researchers also explored whether service outcomes will affect consumer reactions. "If consumers are more likely to attribute the service that they receive from a robot to a rule, rather than to the companies' willingness to help, they should also appreciate the service less when their service request is accepted," Professor Shen says.

Consistent with their conjecture, the research findings in Study 4 indicate when consumers' requests were resolved, their evaluations would be less positive if the service was provided by a chatbot.

In cases of service failure, it would be better if companies apologise to consumers with emotional messages, such as empathy or guilt, to acknowledge their suffering and take responsibility. However, the researchers found that emotional apologies from chatbots are not as effective as those from humans, and may lead to negative results.





"When an apology conveys emotional messages to consumers, they might perceive it as less sincere when it comes from a chatbot versus a human agent," Professor Shen explains, adding that endowing machines with emotions may unsettle people as it challenges human uniqueness.

However, the results also showed that when the apology lacked emotional expression, consumers considered it equally sincere whether it came from an AI-powered chatbot or a human agent.

Making smart choices in different situations

While existing literature shows that people tend to draw a clear line between robots and human beings and demonstrate algorithm aversion, this research revealed a positive effect of chatbots. "Our findings suggest that consumers still prefer human agents. However, this does not mean that a human agent is always the best choice," Professor Shen says. "When consumers' service request is rejected by a chatbot, its perceived inflexibility serves as a buffer, potentially mitigating the negative impact of the service rejection on the overall evaluation of the service."

He suggests that companies utilise chatbots to offer explanations for failed service delivery, which could be cost-effective and most importantly, to alleviate the negative effect of service failure. Meanwhile, Professor Shen also suggests that managers should be aware that personalised services, such as apologies with emotions made by chatbots, may have the opposite effect.

As chatbots may not be suitable for services requiring emotional support or establishing emotional connections, Professor Shen says future research could investigate consumer satisfaction with various types of service agents (such as chatbots or humans) across different service requests.





Professor Shen Hao

A deep look into burgeoning blockchain audit

A new study explores the emerging trend of smart contract audits and shows that in the realm of assurance, decentralised finance is proving its worth

ecentralised finance or DeFi emerged more than a decade ago alongside the rapid growth of cryptocurrencies as alternative investments. With no central authority, DeFi disrupts traditional financial systems and is a conduit to innovation. At the core of its disruptive power lies smart contracts on self-executing blockchains.

Similar to other financial products, DeFi is not immune to theft, which is caused by programming errors and incomplete contracts. In April 2023, for example, blockchain-based lending protocol 0VIX lost approximately US\$2 million after hackers exploited technical faults to manipulate its token prices. To mitigate this risk, smart contract audits became popular.

Unlike standard financial audits for public firms, smart contract audits focus on the integrity and completeness of a piece of computer code as opposed to financial statements. A new study by Janja Brendel, Assistant Professor of the School of Accountancy at the Chinese University of Hong Kong (CUHK) Business School, found that the smart contract audit market is thriving.

The study titled *Decentralised finance (DeFi) assurance: Early* evidence, which was conducted in collaboration with Professor Thomas Bourveau at Columbia University and Professor Jordan Schoenfeld at the University of Utah, provides valuable insights into the smart contract audit market and the role of auditors in ensuring the security and reliability of DeFi ecosystems.

"We provide some of the first evidence showing that these audits are pervasive, with the audit firm market composed of new technical audit firms. The scope of these audits can span a variety of contract features, and the audit inputs and outputs differ substantively from those of conventional financial audits," says Professor Brendel. "The market reacts positively to the release of these audit reports, suggesting that these reports are value-relevant".



For this seminal study, Professor Brendel and the team gathered a comprehensive sample of smart contract reports from January 2017 to the end of June 2023 from a smart contract scanner De.Fi. The data showed that new blockchain assurance services have become a force to reckon with in the market in the past few years, as can be seen in the table. The "full sample" consists of 8,531 unique audit reports that delve into the specific details. The "market sample" comprises 303 audit-venture events focusing on each DeFi project.

Year

Early evidence

The audit market for smart contracts is composed of many new entrants. TechRate, the largest audit firm established in 2017, accounts for around 20 per cent of the market share, followed by InterFi, founded in 2021, with more than 11 per cent and Certik, which was set up in 2018, with six per cent.

In terms of cost, the audit fee mostly depends on the length and complexity of the code. Audit firms with more expertise and experience can also charge more. TechRate and InterFi are widely considered to be low-cost, charging from US\$250 and US\$300 respectively for a standard audit. As a comparison, Quantstamp, OpenZeppelin, and Trail of Bits label their services from US\$5,000, and Hacken starts its fee at US\$9,000.

These prices are justified for various reasons. The largest audit firms have conducted audits for more than thousands of projects with household names in the crypto world. Top-quality audit firms are found to provide more detailed reports, comprising team size, methods used, and days spent on the audit. These firms are also more likely to deploy audit teams of five or fewer, use a combination of manual and automatic processes about 88 per cent of the time, and conduct longer audits, as measured in days.

DeFi making deft inroads

Smart Contract Audit Reports Jan 2017 - Jun 2023				
	Full Sample		Market Sample	
	No. of Reports	% of Share	No. of Reports	% of Share
۱	188	2.2%	2	0.7%
	2,725	31.9%	43	14.2%
	4,728	55.4%	173	57.1%
	588	6.9%	70	23.1%
	162	1.9%	9	3.0%
	106	1.2%	5	1.7%
	34	0.4%	1	0.3%
	8,531		303	1

Source: Bourveau, Brendel, and Schoenfeld. (2023). Decentralised finance (DeFi) asssurance

While these audits can identify vulnerabilities, programming errors, and deviations, audit firms do not provide a guarantee against data breaches, thefts, and hacks. Many smart contract audit firms even

put legal disclaimers in their reports and advise clients to obtain third-party opinions, leaving some space for insurance to grow. For instance, Certik introduced a plan in 2023 to compensate its clients for any hack-related losses incurred after one of its audits up to US\$2 million.

Users can look at several factors to assess how good an audit firm's reputation is. This includes checking portfolios and track records. If they have worked on large and high-profile projects that have not been compromised, it is a sign of reliability. Those seeking a smart contract audit should look at if the firm has worked on the relevant blockchain as they may be more relevant to the project they are currently pursuing. The smart contract audit firm's previous reports can also be examined for their level of detail or comprehensiveness.

66 Smart contract audit reports are used by DeFi service providers primarily to build trust with existing and prospective users of and investors in their services. 99

— Professor Janja Brendel

Keeping on the right track

"Smart contracts play an increasingly important role in structuring and executing common DeFi financial transactions, such as loans and venture capital funding, with more than US\$200 billion now locked in such contracts," Professor Brendel explains. "Smart contract audit reports are used by DeFi service providers primarily to build trust with existing and prospective users of and investors in their services."

Such assurance is important, perhaps due to its decentralised nature, which means smart contract audits are not mandated by legislation. Besides, blockchain projects have a chequered history so it is inevitable that investors need reassurance that the security protocols are up to scratch and that the underlying code works. This allows investors to assess the overall trustworthiness of blockchain projects while mitigating the risks that cause loss of income and irreversible damage.

Smart contracts that are audited are often audited again when there is a significant update to the contract, not periodically every fiscal year like financial audits. There is no formal education or certification required to be an auditor, and the audits also do not need to follow a universal standard or guideline, which means that the audit process and output can differ significantly based on the auditors' approach and methodologies in ways that financial auditors typically cannot.

In general, smart contract auditors normally apply automated bug detection software to scan smart contracts for potential vulnerabilities, then augment the procedures with lineby-line manual code review to ensure a thorough assessment. Furthermore, stress testing is also conducted to emulate different attacks that could threaten the system.

Blockchain and crypto companies can decide whether to release the audit result after weighing the costs and benefits. However, the release of a smart contract audit report is found to result in a positive and statistically significant market-adjusted return of about a 10 per cent increase within the two days after the release. This is consistent with the longstanding proposition in accounting that audits serve as a mechanism to reduce information asymmetry and improve the functioning of capital markets.

With the proliferation of DeFi, assurance services within these new fields are becoming crucial to all fields of business for a number of reasons. Auditing is essential for adding credibility to information that is disclosed, which in turn helps increase trust with users and investors and ultimately helps to raise the number of transactions.



Professor Janja Brendel is an Assistant Professor of the School of Accountancy at CUHK Business School. She received her PhD in accounting from the Humboldt University of Berlin (a member of the German Universities Excellence *Initiative) and obtained a master's* and a bachelor's of science in accounting and finance from the London School of Economics and Political Science. Professor Brendel has experience teaching financial accounting, valuation, and auditing. She is particularly interested in firms' financial reporting, disclosure choices, and the role of information in capital markets. Her work has been published in top journals, such as the Journal of Accounting Research.



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How lack of clarity fuels team innovation

How can companies innovate? New research suggests clear goals can harm, and the answer lies in giving employees the freedom to make decisions

n today's competitive business environment, innovation is an often-heard mantra that eclipses all else. At the same time, teamwork has also gained greatly in importance, supported by the rise of workplace tools such as Slack, which have brought a "social media" designed to collaborative corporate culture. While organisations must have individuals working together to create innovation, do excellence and innovation actually arise from having clearly defined goals that all employees must universally support?

This is a question set out in a new study by Dr John Lai, Senior Lecturer at the Department of Management at the Chinese University of Hong Kong (CUHK) Business School. Will goal clarity lower team innovation? A moderated mediation model of inter-team trust is a body of research between Dr Lai and Steven Lui at the UNSW Business School, Ben Luo Nanfeng at Renmin University of China, and Peter Moran at China Europe International Business School. Their work challenges conventional views that clear goals make innovation more likely.

"When a team's goal is clear, team members become more selective in the information they are motivated to seek and acquire and less selective in what they screen out," says Dr Lai. "This resulting selectivity and commonality of knowledge sought by each team member suggests that the team as a whole is more likely to acquire less knowledge."

Many existing studies have assessed the question of whether clear goals foster innovation due to a "team climate" or "knowledge integration" perspective. In team climate thinking, a clear strategy makes for more cohesiveness among teams. From a knowledge integration point of view, if the workplace is a trusting environment, innovation should further increase with more knowledge acquisition and sharing.

66 Our finding suggests that while goal clarity does not reduce the amount of knowledge acquired from other teams, it reduces the impact of the acquired knowledge on team innovation. 99

— Dr John Lai

Dr Lai and his collaborators challenged the team climate perspective for neglecting how having clear goals affects gathering and disseminating knowledge. As the researchers point out, goal clarity could inadvertently restrict learning. The team also indicated that while trust is crucial to innovation, it is not uniform or universal within organisations. Some colleagues and teams can get along, while others have relationships that are marked by distrust. This will impact how much innovation can take place.



The gap was there that obviously needed to be bridged, and the team set about addressing this with a moderated mediation model. This showed how the interaction of goal clarity and inter-team trust impacts innovation, while looking at knowledge inflows within the symbiosis of inter-team trust and innovation. To test the model, the researchers examined service innovation at 150 outlets of a large apparel retailer in mainland China, Hong Kong and Macau.

There were several criteria involved in choosing these companies continuous knowledge sharing through regular training workshops for shop managers, the importance placed on company-wide innovation, a recent corporate-wide brand revamp, and staff being introduced to new practices, with managers being able to adopt at their own pace. The study used two questionnaires in Chinese, one that was answered by retail shop managers and one by retail staff, along with 14 interviews with senior managers within the organisation. All studies were kept confidential to eliminate bias.

are less clear.

Having goal clarity is a double-edged sword for innovation, which according to Dr Lai "reinforces a shared mental model and hence sustains and amplifies the cognitive bias of a team that will restrict the acquisition and interpretation of external knowledge."

Debunking the myths of innovation

The researchers point out that previous studies have not resulted in a clear link between the impacts of team climate or knowledge integration perspective towards innovation."Research often takes on a reduced form of hypothesis, where no empirical test of the specific mediating mechanism is reported," Dr Lai points out.

Goal clarity is a double-edged sword

In the age of social media and ever-increasing consumer demands, innovation is ever crucial to sales and profits. Retail was chosen as the arena for this study, as the stores are run by teams that sell an existing product and innovate to serve customers better. This study is important to show clear goals can have a negative effect on innovation, while trust only supports innovation when team goals

This crucial aspect is often overlooked by previous studies, and can also be applied to the concept of trust. Dr Lai and his collaborators found that inter-team trust and innovation are linked positively when goal clarity is low. However, trust is hard to define within an organisation, and there are myriads of overlapping relationships between team leaders, co-workers, other teams and departments. In general, the connection between trust and innovation fluctuates significantly.

"Our finding suggests that while goal clarity does not reduce the amount of knowledge acquired from other teams, it reduces the impact of the acquired knowledge on team innovation," says Dr Lai.

Harmful group-think can be avoided

The study offers practical advice for retail operators – teams competing for sales can nonetheless benefit each other by sharing knowledge of local markets, customers and inventory levels. "It is useful for business firms to build a trusting relationship among their work teams rather than advocating a hostile competition-based atmosphere that has become common in the retail industry nowadays," says Dr Lai.

Having said that, managers need to be highly attuned to the cognitive biases that goal clarity creates among team members. "When goals are clear, team members could be biased against the use of new ideas and practices, and such bias could harm innovation," Dr Lai adds.

With clear goals, the net positive effect that knowledge transfer has on innovation can be harmed. This is especially the case when managers have been assigned clear performance goals for their teams. As the study pointed out: Goal clarity benefits innovation, while cognitive bias deters innovation. The double-edged sword of goal clarity is an increase in biases and a reduction of knowledge transfer through inter-team trust.

To reduce bias, managers can seek to add diversity to their teams. This could be gender, cultural, educational, and personality-wise. They may also rotate people across teams. "Greater team diversity and personnel rotation may lower the tendency of group think. Importantly, both are readily employable in the retail sector," says Dr Lai.





Dr John Lai

Dr John Lai received his PhD from the School of Management at the University of New South Wales. He is currently the Director of the Office of Co-operative Education Programme, the Integrated BBA Dual Degree Programme, and the Assistant Dean (Undergraduate Studies) of CUHK Business School. He previously served as the Director of the Master in Management Programme and the Director of Global Business

Business and Chinese Enterprise at CUHK. His research interests are innovation in services, networks, and knowledge transfer. He is the recipient of CUHK's 2018 University Education Award, twice recipient of the Vice-Chancellor Exemplary Teaching Award in 2014 and 2010, Faculty Outstanding Teaching Award from CUHK Business School in 2014, 2011, and 2009, and Faculty Teaching Merit Award from CUHK in 2015 to 2017.

When following the crowd weakens crowdfunding

A recent study shows that herd-like behaviour could undermine a crowdfunding project, but establishing an all-or-nothing threshold can counteract this effect

C tart-ups often face the challenge of securing J funding to scale up their operations. How are they going to get their first bucket of gold? In the modern era, crowdfunding has emerged as an alternative to traditional financing like bank loans or angel investments for its edge to raise funds from a large pool of individuals, while showcasing innovative ideas to a broad audience.

Today, crowdfunding is now a mainstream capital source for entrepreneurs. According to a recent report by Fortune Business Insights, the global crowdfunding market is expected to reach US\$3.62 billion by 2030, growing at a compound annual rate of 14.5 per cent.

Comparable with a real-life crowd, economic interactions in crowdfunding platforms normally see investors following others by relying on simple observations to make decisions without pondering their own critical thinking. This phenomenon is called an "information cascade", which can lead individuals to restrain their true preferences, leading to herd-like behaviour and distorting the perception of project quality. As a result, funded projects attract more backers while unfunded projects struggle to gain traction.

66 The implementation of all-or-nothing thresholds can improve project feasibility, efficiency and information aggregation. 99

— Professor Xiao Yizhou

Information cascades can occur in various settings, including financial markets, social media, and consumer behaviour, where individuals are influenced by the actions of others. In crowdfunding, this can result in flawed information gathering as individuals may not contribute their knowledge to the collective process and amplify errors in decision-making, which results in suboptimal outcomes.

To address this issue, a recent study suggests that implementing an all-or-nothing threshold, where the proposer receives all contributions only if the campaign reaches pre-specified funding, can help. This model is an alternative to keep-it-all and partial funding models, where the campaign creator is allowed to retain all or a portion of the funds raised, irrespective of the goal achieved.

"The implementation of all-or-nothing thresholds can improve project feasibility, efficiency and information aggregation," says Xiao Yizhou, Associate Professor of the Department of Finance of the Chinese University of Hong Kong (CUHK) Business School.

The real decision-maker

Professor Xiao notes that many projects in the real world can be only implemented after reaching a certain funding goal or threshold. With an all-or-nothing threshold, the project would not take off if the crowdfunding does not reach its goal, and the funds are returned to the supporters, leading to a more efficient allocation of resources.

Professor Xiao, along with Professor Cong Lin from Cornell University, in their study titled Information cascades and threshold implementation: Theory and an application to crowdfunding, explain that a crowdfunding campaign begins with a certain number of potential investors whose decisions inspire others. Before making any decisions, investors receive and collect informative signals while observing the actions of preceding investors.

"Through game theory and economic modelling, our analyses showed that all-or-nothing threshold implementation drastically alters informational environments and economic outcomes," says Professor Xiao.

As the campaign progresses, reaching the funding threshold becomes dependent on the decision of a supporter whose contribution will bring the total funds to the threshold. These supporters are referred to as "the gatekeepers" by the researchers. Considering this circumstance, people are more eager to contribute with all-or-nothing thresholds as it would lead to "uni-directional cascades". This occurs when early supporters delegate their key decisions to the gatekeepers, who have observed a longer history of preceding supporters and can make a more informed decision to influence subsequent supporters.

While information cascades refer to the phenomenon of individuals relying their decisions more on observed actions than on their own information, uni-directional cascades specifically describe a sequential pattern of decision-making where individuals are influenced by the actions of those who have made decisions before them.

"Individuals with positive signals will always support because they essentially delegate decisions to the gatekeeper. The gatekeeper is the last one to reach the threshold and the real decision-maker," says Professor Xiao. "This delegation hedges against mistakenly supporting a bad project because the subsequent gatekeeper makes the contribution decision with better information by observing a longer sequence of previous actions."





Although people may make emotional decisions in real life, Professor Xiao highlights rational investors tend to send accurate signals they receive to the gatekeeper. Investors or supporters in crowdfunding campaigns can signal each other through their contributions, endorsements, information sharing, engagement with project creators, early support, and the like, which significantly impact the perceptions of potential supporters in the ecosystem.

Positive implications of thresholds

The presence of all-or-nothing thresholds in crowdfunding has several positive implications. Firstly, it enhances project feasibility by supporting good projects with high production costs. Without a threshold, the first investor may reject even with a positive signal due to high production costs. However, with a threshold, investors are incentivised to support such projects. Secondly, these thresholds improve project implementation efficiency by ensuring that projects are pursued only when there is strong confidence in their positive quality, which prevents premature or suboptimal implementation.

Furthermore, all-or-nothing thresholds enhance information aggregation, particularly in the context of a large crowd. When investors realise that they are not the sole decisionmakers, they become more inclined to support a project. At the same time, they also recognise the responsibility to convey the right signal to the gatekeeper. Therefore, individuals at the back of the sequence possess more knowledge than those at the front, resulting in improved information aggregation.

On the other hand, a higher threshold, albeit less likely to be reached, can achieve a higher contribution price by allowing more individuals to participate in the crowdfunding process. "In general, a larger crowd mitigates the concern about implementation failure and generally permits a higher optimal price," Professor Xiao says.

Providing insurance to investors

The findings of this research shed light on how crowdfunding projects can be made more successful, particularly by emphasising the crucial design of all-or-nothing thresholds. By implementing all-or-nothing thresholds, the information aggregation, proposal feasibility, and project selection of crowdfunding projects will be improved.

Additionally, as the number of investors approaches infinity, project implementation and information aggregation achieve socially efficient levels, even if there are some challenges in getting and sharing information. "Enough investors in the market can kill the information cascades," Professor Xiao says.

In general, the implementation of thresholds in crowdfunding campaigns offers a promising solution to address the challenges associated with information cascades.

As crowdfunding continues to gain prominence as a capital source, Professor Xiao says that companies can adopt marketing strategies that provide insurance to investors, reassuring them that costs will only be incurred if there is sufficient collective support, "People won't worry too much if they know they are not the only one to jump in."



Professor Xiao Yizhou

Professor Xiao Yizhou joined the Chinese University of Hong Kong (CUHK) Business School in 2016 as an Assistant Professor of Finance. His primary research interest focuses on the role of asymmetric information in trading, asset pricing and entrepreneurial finance. He received his PhD in Finance from Stanford University Graduate School of Business, MA in Economics from Peking University and BA in Finance from Renmin University of China.

Sisterhood of passing on the torch

▲ From left: Chananchida Choochua (IBBA 2022) and Panitsiree Choochua (IBBA, Year 1)

Photography: Keith Hiro

ailing from Thailand, two sisters embarked on their growth journeys at the Chinese University of Hong Kong (CUHK) Business School, one after another, finding their new home in the bustling city burst with adventures and opportunities. Their sibling bond only grew stronger in this foreign land, where they continued their relentless pursuit of excellence, supported unwaveringly by their family back home and their newfound home away from home.

Time seems to fly so fast for Chananchida Choochua (IBBA 2022), or Chanan to her friends and colleagues, who embarked on her journey at CUHK Business School as a Thai student back in 2018. She has been working in Hong Kong since graduation and her path has served as an inspiration to her younger sister, Panitsiree Choochua (Marine), to follow in her footsteps.

Chanan admitted in a 2019 interview published by CUHK that her interests in business originated from her experience accompanying her mother to a stock investment workshop. However, Marine has a different story.

The year-one IBBA student says, "From a young age, I have been passionate about business. I did part-time jobs such as helping out at my aunt's convenience store and assisting my uncle at his construction materials store with inventory-related matters. To hone my business skills, I also sold fashionable clothes and toys online during semester breaks."

From Grade 9, Marine started coming to CUHK to visit Chanan from time to time. She was fascinated by "the beautiful campus, the appealing business programme curriculum and the vibes of a professional but friendly environment". Not needing to consider alternatives, Marine went straight for CUHK's IBBA Programme.

Just like her sister, Marine is a perfectionist. She studies hard and has been awarded first a CUHK Admission Scholarship, then a Business School Admission Scholarship, and later a Belt and Road Scholarship.

Sister, closest friend and alumna

On the benefits of having a sister as an alumna, Marine says, "My sister and I are very close. She is not only my sister, but also my best friend and consultant as well. She provides numerous suggestions and supports me a lot.

"For example, Chanan explained that improving business skills is not all about studying in the classroom. Joining activities outside the classroom is also a good real-life sandbox. She encouraged me to gain practical experience like joining clubs, doing internships and socialising with others to widen my connections. Moreover, if I do not understand the lessons or something, I should not be afraid to ask because either the professors or friends may provide a better explanation."

Armed with these useful tips, Marine has adapted well to university life. "I am so lucky that my beloved sister stays in Hong Kong. I did not feel as homesick as Chanan did before."



A Chanan invited Marine to join her company's voluntary activity, painting the wall of transitional housing



Chanan poses with her family in her graduation day

Adds Chanan, "I am glad that Marine is here too. Though she stays in the hostel of S.H. Ho College most of the time and I live off campus, we talk to each other almost every day. I don't feel lonely."

Chanan is also proud of Marine's determination to study at CUHK. "She always takes my advice."

Their unforgettable experiences

Marine's first year at CUHK went well, except that she suffered from stomach inflammation during the Business School orientation camp. "That was one of the most serious sicknesses I have ever had," she says, "I am so lucky that my sister stayed beside me. My sister, my friend and my senior took me to the hospital and bought food for me. I was so thankful to them."

As for Chanan, she says, "Before I joined CUHK, I had some kind of expectation that I would excel in studying and graduate with the highest grade. But by the end of the first semester, I was so disappointed and frustrated for not getting the GPA I expected. I then learned that the real success does not depend on the grades, but on how you balance your life. It was really a great life experience."

Home away from home

After graduating in 2022, Chanan worked as a business consultant at a health technology startup for almost a year. She then developed an interest in logistics. "Logistics is not only the backbone of industries but also boosts the economy," she says.

In July 2023, she joined Kerry Logistics as a management trainee. "I have the chance to rotate to different departments and have tried my hand at daily operations work such as packing shipment, warehouse and supply chain management."

Over the past few months, Chanan has learned a lot and decided to specialise in international freight forwarding: strategic logistics planning and execution for the international movement of goods. Chanan, who is proficient in Putonghua, has not encountered any problems in communicating with colleagues. "I have already adapted to the working style in Hong Kong. I am now trying to learn Cantonese."

Chanan enjoys her job and is considering pursuing a master's degree in logistics in future. Of her future plans, Marine says, "I would like to work in Hong Kong as well to get work experience."

Chanan and Marine meet whenever they are free. "We usually have some meals and hang out together," says Marine, "That's why I feel like Hong Kong is my home away from home."



Photography: Keith Hiro

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Brings dreams to fruition with advanced robotics platform at RoboSense



Earlier this year, he led his company to a successful listing on the Hong Kong Stock Exchange, aiming to harness the strategic advantages of the Greater Bay Area to propel his vision of an international-leading robotics platform.

Fostering corporate development through geographical advantages of Shenzhen and Hong Kong

A decade ago, Mark and his brother, Steven Qiu, along with their research team, established RoboSense in Nanshan, Shenzhen. Mark assumed responsibility for overseeing overall strategic implementation and business operations, all while exploring the potential commercial applications of LiDAR technology. Firmly believing in the unique advantages offered by the Greater Bay Area, he saw it as the perfect incubator for nurturing his entrepreneurial aspirations.

"Shenzhen's service-oriented approach to businesses is exceptional – it strikes a perfect balance between support and non-intrusion. Coupled with the concentration of top talent and resources, it creates an unparalleled business ecosystem."

In 2016, he and his team made a significant mark by clinching the championship in the esteemed "Entrepreneurs Star" Contest, amid a pool of more than 3,000 start-ups. Mark chuckled, "Securing top positions in competitions certainly greases the wheels for soliciting financial support." In just a few short years, his company ascended to the ranks of mainland China's "unicorns", with its technology finding application in the perception systems of numerous smart vehicles and robots across the nation.

On another front, Mark has strategically positioned himself to capitalise on the burgeoning opportunities in Hong Kong. He perceives the city's status as an international financial hub, coupled with its mature business environment and strategic geographical advantages, as instrumental in facilitating the expansion of Shenzhenbased companies into global markets.

"Hong Kong serves as the conduit for companies to establish global connections. Here, we can attract international talent and capital, fortifying our growth trajectory. This was a key factor in our decision to list on the Hong Kong Stock Exchange."

On 5 January 2024, Mark ceremoniously inaugurated RoboSense's debut on the Hong Kong Stock Exchange, marking a significant milestone as the pioneer in LiDAR stocks and Hong Kong's first IPO of the year. Leveraging its leading market position, the company witnessed substantial growth, as reflected in its stellar inaugural financial report.



▲ RoboSense became the first IPO to debut in Hong Kong in 2024, with Mark (left) striking the "Gong" with his brother

Long before going public, Mark returned to campus to deepen his understanding of management and finance at the Chinese University of Hong Kong. "I sought a comprehensive grasp of these areas, particularly with our upcoming debut on the capital market. It was a strategic decision to meet the developmental needs of our company."

Thirsty for knowledge, he pursued the FMBA programme at CUHK Business School in 2020 and graduated in 2022. Mark found the esteemed faculty particularly compelling, noting that he not only gained valuable insights from distinguished professors but also drew inspiration from the wealth of experience and advice shared among peers.

"I'd share workplace challenges with classmates, sparking lively discussions. We even had discussions around where to list our company – our teachers offered invaluable guidance too." This camaraderie extended beyond the lecture halls. "To this day, I maintain close ties with both my professors and classmates, fostering personal and professional connections that endure."

In 2023, Mark was listed among Fortune China's "40 Under 40 Business Elite" list. However, he views this as an accolade for the entire RoboSense team. "I consider myself fortunate. Our achievements today are not the result of just one or two individuals. We were incredibly fortunate to assemble a team of like-minded individuals who shared our vision and worked together towards our common goals. That collective effort is what truly defines our success."

In his vision, leveraging LiDAR to advance robotics research transcends mere commercial benefits, personal advancement, or even transformative societal impact — it is a cause to which he is wholeheartedly committed, and willing to dedicate his life.



▲ In 2023, Mark was listed among Fortune China's "40 Under 40 Business Elite" list



A Mark advised alumni to carefully analyse the strategic positioning of their business, assess both their own and their team's strengths and weaknesses, and establish appropriate growth plans before embarking on entrepreneurship



Members from CUHK Business School visited RoboSense for an exchange

Boundless potential in the robotics market

When asked about the future development of LiDAR and AI technology, Mark envisions their profound impact in the realm of robotics, particularly in domains such as smart cars, autonomous delivery vehicles, and humanoid robots.

"With global vehicle sales averaging 80 million annually, coupled with millions more in lawn mowers, automated guided vehicles (AGVs) such as delivery robots, and the rapidly advancing field of humanoid robotics, I see immense potential for sensor applications in robotics, spanning from industrial to commercial to personal use. Our aspiration is to emerge as a leading global robotics technology platform within the next decade."

For alumni aspiring to entrepreneurship, Mark underscores the nuanced reality that many successful ventures are niche-specific. He encourages them to conduct a thorough introspection, comprehending not only their personal strengths but also those of their team.

"It is imperative to harness the collective talents within the team to assess the feasibility and societal impact of potential business solutions. Only through the right objective can we discern and employ the most fitting resources to actualise our vision."



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Breaking barriers and bridging the gaps

From Australia to Japan and the US, CUHK Business School alumni have demonstrated the power of knowledge in their professional journeys and driving innovation. As the business landscape evolves, their ability to adapt and leverage their talent is a testament to their ever-growing impact and influence. S MAGGIE (KIT) YAU (IBBA 2004) Head of Marketing, Alibaba Group (Australia and New Zealand)

My major duty is to enhance the brand's presence and

government affairs strategy and build relationships with

government agencies across Australia, New Zealand, Fiji,

chambers to facilitate local businesses on a global stage.

Vibrant, multicultural, scenic, Melbourne is famous for its

lively culture, diverse arts scene, and bustling street life.

The city truly embraces and celebrates its cultural diversity.

Located among beautiful landscapes, Melbourne offers a

visually stunning environment. It's a place where residents

can enjoy a serene and visually appealing backdrop.

Australia is known for its environmental-friendly

wellness, beauty and skincare, and mother and infant

abundant opportunities to incorporate diverse cultural

products are of strong potential. With its significant

and organic image. Industries like health and

international economic connections, there are

perspectives in different sectors.

and the Pacific Islands. I also collaborate with business

implement strategic plans. I oversee marketing and

Could you briefly describe your current job scope or responsibilities?

Q2

Please describe your residing location in three words.

Q3 wi

Which industry do you see strong business potential in your residing location?

What is the one thing you miss the most during your study at CUHK Business School? I miss the close bond with my schoolmates. From rushing for the school bus, exploring the canteen and spending time in the library, those memories hold a special place in my heart. Even now, some of the most important relationships are with those who were part of my IBBA journey. I oversee the entire service business for the distributed control systems in major oil refineries and power plants, as well as quality control systems in pulp and paper mills and battery thin film technology. I am also responsible for the profitability and performance of the service business in Japan.

Ibaraki, Japan

WILLIAM LAU (MBA 2005)

Service Business Manager, Honeywell Japan

Suburban, residential yet convenient. Ibaraki is a suburban area in Osaka Prefecture known for its residential neighbourhoods offering a quieter and more peaceful atmosphere compared to the bustling city centre. Its convenient transportation network allows for easy commuting to work or exploring other parts of the region.

The healthcare and social service industry holds significant business potential in Osaka Prefecture, and in Japan as a whole, due to the high number of elderly individuals living alone. Any business that caters to the needs of this demographic has a promising market in this area.

The thing I miss the most during my study at CUHK Business School is the quality of lectures and discussions among fellow students. The campus provided a conducive environment for learning, and the interactions with professors and students greatly enhanced the educational experience.



My primary role involves overseeing the education centre's operations, as well as supervising and training our tutors to ensure the delivery of high-quality teaching. As a dedicated educator, I find great satisfaction in interacting with my students and guiding them to develop selflearning skills and achieve personal growth.

Emerald, cosmopolitan, and hi-tech. Seattle is blessed with lush green surroundings. Its natural beauty offers a captivating sight. Apart from being a cosmopolitan hub in the Pacific Northwest, the city also houses some of the world's most influential tech companies. This solidifies its reputation as a leading force in technology.

The education industry has strong potential here. Seattle is home to a highly educated population and creates a demand for continuous learning and upskilling. The prestigious universities attract global talents, and the influx of students creates a demand for educational services, leading to opportunities for educational services and training providers.

I certainly long for the cherished moments I shared with my classmates and teachers. The breathtaking scenery is also something memorable. Although I did not have the opportunity to visit the library, I look forward to exploring it when I travel to Hong Kong in the future.

School news highlights



JAN

CUHK Business School students receive The Outstanding Student Awards 2023

CUHK presented The Outstanding Student Awards 2023 to 23 students from CUHK Business School, in recognition of their remarkable accomplishments beyond academic excellence, contributions to the community, and demonstration of courage in facing adversities.



MAR

The Fung Family's philanthropic legacy endows named professorship at CUHK Business School

Mr Tony Fung, the generous donor of the Fung King Hey Memorial Professorship in Finance, attended the inaugural lecture delivered by Professor Shu Tao, Chairman of the Department of Finance and recipient of the professorship. The professorship is envisaged to serve as a beacon of excellence in finance research and education and empower business leaders of the future.



JAN CUHK ranks 14th worldwide for **Real Estate Research Leadership**

Ranked second in Asia and the first in Hong Kong, CUHK achieved a global ranking of 14th in The Real Estate Academic Leadership (REAL) Institutional Rankings for 2019-2023, marking a climb of 13 places from the previous ranking.



MAR CUHK MiM Forum 2023-24 explores global market trends and innovation

The CUHK MiM Forum gathered esteemed alumni and industry experts to shed light on the latest market trends and innovative practices. The discussions ranged from Fintech evolution to HR transformation, tech-driven healthcare advancements and rehabilitation technologies.



MAR **CUHK Business School hosts 60th Anniversary International Finance Forum**

On 23 March, CUHK Business School concluded its anniversary celebration with an insightful forum, assembling government officials, industry experts and think tanks across Asia to discuss the prospects of Hong Kong's financial development. Mr Paul Chan Mopo, Hong Kong's Financial Secretary and a CUHK Business School alumnus, delivered a keynote speech at the event.



APR **HKEX and CUHK Business School announce the** Laura M Cha Capital Markets Scholarship

Hong Kong Exchanges & Clearing Limited has established a new postgraduate scholarship programme in partnership with CUHK Business School. The annual scholarship programme was launched to honour Laura M Cha, recognising her considerable contribution to the development of capital markets in Hong Kong, Mainland China and globally.





ΜΔΥ **MSc in Information and Technology celebrates** 25th Anniversarv

On 4 May, MSc in Information and Technology organised a banquet to commemorate its silver jubilee, bringing together more than 250 distinguished quests, including quest of honour, Ir Daniel Lai, BBS, JP, former Chief Information Officer of the HKSAR and former Honorary Chairman of MSc in ITM Advisory Committee.



JUN **CUHK Business School Masters in Finance Ranks** 25th by Financial Times

CUHK Business School MSc in Finance is placed at 25th worldwide in the Financial Times Masters in Finance 2024 - Pre-experience Programmes Ranking, up by four places from 2023.

The Chinese University of Hong Kong (CUHK) Business School

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