The Haskayne Report

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Internal
Karen Uppal (VP Design & Marketing)
Jaymee Caparanga (Creative Team)
Julie Su (Creative Team)

External Advisors
Hasnaien Ahmed (MD Student at UAlberta)
Rehan Babar (Consultant at ICChange)
Kourosh Banaeianzadeh (Software Engineer at Synopsys Inc)
Yassine Bensaada (Commercial Analyst at Purdue Pharma)
Tyson Bilton (Co-Founder of Calgary Social Value Fund)
Nik Golob (Strategy Consultant at Monitor Deloitte)
Daniel Pham (Investment Banking Analyst at Rothschild & Co)
Hannah Rahim (Consultant at BCG)
Kenya Rasmussen (Strategy Analyst at Accenture)

Faculty Advisors
Dr. Anup Srivastava (Main Faculty Advisor)
Dr. Naor Cohen
Phil Davidson
Kris Hans
Dr. Hooman Hidaji
Thomas Holloway
Dr. Heechun Kim
Dr. Miguel Palacios
Houston Peschl
Rosalynn Peschl
Dr. Claudia Wendrich

Administrative
Dr. Jim Dewald
Sherry Weaver
The Haskayne School of Business Undergraduate Office

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Foreword

From the Dean of the Haskayne School of Business

Dr. Jim Dewald

What do the world's top employers look for when recruiting? Even while you focus on your studies and getting through the pandemic, this question will one day be very important to every Haskayne student. Most people would think about this question through the frame of their personal psychological make-up. In other words, people who are strong with numbers and machines tend to feel that technical expertise is what counts most. Those who are relationship builders will feel that networking skills are most important. Others will feel it depends on what kind of work you are looking for. Can they all be right?

Several studies have identified a common trend. While expertise and skills are necessary, they are not sufficient to land the right job. In addition to all the important academic skills you are learning at the Haskayne School of Business, to appeal to the top employers you also need a positive attitude, communication skills, a strong work ethic, and the ability to work in a team.

At Haskayne, while our academic mission is our top priority, we strive to continuously improve our ability to help you grow in these areas through techniques such as curriculum design and work-experience learning. Class presentations, case studies, group projects, pop quizzes – these are all part of a comprehensive education that will prepare each student for a diversity of opportunities. For those who are fully engaged in their education, earning a degree means much more than academics.

One of the value added benefits is the Haskayne Report (HSKR), which is the only student-led business publication in Western Canada. We invite you to use the report as a resource and a platform to share your insights about business challenges and opportunities and to develop the skills I mentioned above. You will discover a wide range of student-curated articles in the report and I encourage you to consider it as one of the tools that will complement and enhance your business education.

A Message From Our Editors

To the reader,

This has been a difficult year. The ability to share business insights face-to-face has, until recently, been something that each and every one of us has taken for granted. Even through this pandemic, we are pleased to be able to bring you a finished product that can simulate the brilliant ideas that would arise through normal, every day, in-person interactions.

We are pleased to present you with the inaugural edition of The Haskayne Report, the only student-led business publication of its kind in Western Canada. We aim to promote the importance of written business communication as well as create confidence and unity in the campus community by encouraging expression and collaboration. We hope our platform will allow the intellectual, driven, and curious students at the University of Calgary to transform their astute observations into actionable insights.

The ten writers who were chosen for this edition were carefully selected on the basis of their meritorious ideas. We were thoroughly impressed by the work they put forward, and we hope that their analyses, contained within this publication, inspire you to create meaningful change in the business world.

Sincerely,
Sahil Gaur & Monica Uppal

In This Edition

The student-curated articles contained within this inaugural edition touch upon various pressing topics that currently impacts the business world. In light of the current pandemic, the ethical implications concerning the rollout of the COVID-19 vaccine will be discussed. Next, three particular areas of consideration will be recommended regarding the implementation of AI predictive models. This article will be followed by a discussion of the ascent of Generalism, in the face of changing labour capital needs of organizations. The succeeding article will elaborate on the impact of AI on the future of leadership and will provide corresponding recommendations. Then, emerging trends in the finance and venture capital space will be highlighted. The following article will then emphasize the pivotal role of transparency in the collection and usage of consumer data. Next, recommendations regarding the sustainability of small businesses will be proposed. The eighth article will explore the recent shift towards freelancing as a career. This article will be followed by a discussion on the role of higher education institutions in impact investing. Finally, an alternative to the market economy will be examined in detail.

Credit: Jaymee Caparanga

The COVID-19 Vaccine: Profit, Responsibility or Both?

by Ryan Ing | BComm (ACCT) '20, GD (ACCT) '20

Almost one year after the beginning of the COVID-19 pandemic, Pfizer and Moderna announced success in developing effective vaccines in early trials (Thomas, 2020). As a result, world governments are starting to shift funding priorities towards finding ways to secure and distribute doses (Thomas, 2020). With research and development potentially reaching a conclusion for many groups aiming to develop vaccines, one of the next critical factors in resolving the COVID-19 conundrum will be logistical. Given that the COVID-19 pandemic is global, there are approximately eight billion humans that will need vaccines. High demand, coupled with the logistical issues of making the vaccine accessible to all countries, bring forward a few immediate questions about who will receive the vaccine first and how much it will cost for all parties. While the existing logistical issues can be eventually resolved, no part of this process will come without significant cost. With Pfizer and Moderna being the only companies to have a breakthrough with potentially viable vaccines for COVID-19, both companies are poised to profit greatly from this unique, low-competition, and massive demand scenario (Hopkins & Loftus, 2020). Pfizer and Moderna could monopolize the vaccine, however, choosing to maximize profit in this scenario would make equitable distribution unlikely, which could be damaging to many communities across the globe.

Due to the anticipated high demand for COVID-19 vaccine, it is likely that the rollout and distribution will come in stages. In preparation, many countries have begun securing doses of potential vaccines from pharmaceutical companies by signing contracts (Cotnam, 2020). While securing initial doses will not be a concern for those living in Canada and the United States, where does this leave countries that cannot afford to spend billions in guaranteeing supply (Cotnam, 2020)? The question of "Who first?" is only one of the many ethical challenges that the pharmaceutical industry faces. Traditionally speaking, corporate social responsibility (CSR) aims to contribute to communities and sustainability, however pharmaceutical companies are in a unique position of being more directly responsible for the well-being of populations than other companies as the pharmaceutical industry actively plays a role in maintaining public health through the development and distribution of drugs (Rangan et al., 2015).

While major pharmaceutical companies such as Sanofi and GlaxoSmithKline are for-profit companies that might be meeting their conventional CSR responsibilities by providing safe working environments to employees, creating a profit to benefit stakeholders, and helping society by developing medication, further questions could be asked about whether these pharmaceutical companies have a greater social responsibility beyond other non-healthcare companies (Droppert & Bennett, 2015). Do Pfizer and Moderna, in face of a global pandemic, have an ethical responsibility to ensure that each country has equitable opportunity in receiving a vaccine? Due to the current interpretations of CSR standards, the COVID-19 pandemic has created a truly unique situation where Pfizer and Moderna are able to meet minimal ethical responsibilities while selling to the highest bidder.

Examining the general issue of drug pricing and accessibility for individuals can provide some insight in answering the question of, "Who receives the vaccine first?" on a micro-scale. While drug prices are a less prevalent issue in countries with universal health care such as Canada, those living in countries like the United States struggle daily to meet their needs (Knowledge@Wharton, 2017). Infamously, just over five years ago, Turing Pharmaceuticals, who manufactures a life-saving HIV drug called Daraprim, raised the price of the drug by 5000% (Pollack, 2015). As a result, there was outrage over the CEO's decision and the pricing issue remains unresolved to this day (Pollack, 2015). The Daraprim situation caused a significant amount of discourse over government involvement in the pharmaceutical industry, so a common suggestion raised was for governments to impose regulations on drug prices to reduce personal expenses for individuals (Kennedy, 2019). While capping drug prices seems like a relatively simple strategy to make medication affordable, it can also lead to many complications beyond impacting executive compensation. In a standard R&D process, pharmaceutical companies take approximately ten years to develop a drug from discovery to market, a process that costs 2.6B USD on average (Kennedy, 2019). It is partially due to the exorbitant costs involved with R&D that pharmaceutical companies typically raise prices on medication (Kennedy, 2019). If price caps were placed on existing drugs, pharmaceutical companies would lose out on a significant amount of revenue that could be re-invested into future R&D (Kennedy, 2019). Simply put, price caps would force pharmaceutical companies to cut down on their number of R&D projects, which would result in fewer potentially life-saving drugs being developed in the future.

While the issues of accessing COVID-19 vaccines for developing countries, as well as issues in pricing for the vaccine itself do not have clear methods of resolution, there are a few initiatives in place that aid in mitigating these issues. A significant player is the Global Alliance for Vaccines and Immunisation who, in conjunction with the World Health Organization, created the COVAX initiative which works with other vaccine manufacturers to develop a COVID-19 vaccine by pooling investments from participating countries (World Health Organization, 2020). Once developed, the vaccine will be distributed among the participating groups. While the COVAX initiative will be invaluable in leveling the playing field among higher income and lower income economies, the system still has limitations as it cannot completely meet demand for all participating countries (World Health Organization, 2020).

Perhaps the answer to dealing with cost and accessibility issues is not through searching for solutions outside of these pharmaceutical companies, as seen with the COVAX initiative, but rather through re-examining fundamental ethical responsibilities. Under extraordinary circumstances such as the COVID-19 pandemic, it may be worthwhile to question whether simply meeting basic CSR self-regulations is sufficient for organizations to be considered as operating in an ethical manner. Is it ethical for companies to raise prices on life-saving drugs, to further R&D and compensate executives and shareholders, to the point that customers are outpriced? Perhaps under certain circumstances, such as a global pandemic, a company's ethical responsibility to society can outweigh its responsibility to its direct stakeholders.

Credit: Julie Su

Ethical AI: An Oxymoron or the Next Big Thing?

by Caleb A. Braun | BComm (BANA) '22

Artificial intelligence (AI) has developed rapidly in the past two decades. Accomplishments include the advent of autonomous driving (Kocić et al., 2019) and facial recognition (Parmar & Mehta, 2014), both of which are implementations of predictive models. A predictive model is a technique within AI that generates predictions by learning a relationship between input data and a target outcome measure (Menard, 2010). These models are increasingly used to influence decision-making in a variety of business applications (Bradlow et al., 2017; Collins et al., 2015; Raub, 2018) with substantial improvement over human judgment (Beam & Kohane, 2019). However, these accomplishments are accompanied by concerns over the unintended consequences when the decisions made based on the output of a model materially impact the well-being of individuals. This issue is increasingly recognized by technology-focused organizations, with most having developed or endorsed a set of ethical principles for AI (Fjeld et al., 2020). Only a minority of AI-focused organizations, however, "recognize the many risks of AI use, and fewer are working to reduce the risks" (McKinsey & Co., 2020, p. 9). When creating predictive models that materially impact the well-being of individuals, model creators should consider three factors: the bias in the model's training data, the transparency of the model, and how the model's performance will be validated.

Predictive models unknowingly built on inherently biased data can result in predictions that are unfavourable for minority subsets within the data, with embarrassing and dangerous outcomes (Chouldechova, 2017; Dressel & Farid, 2018). One example is COMPAS, a model used over the past two decades to predict the likelihood of recidivism of over one million American offenders (Angwin et al., 2016). Buolamwini and Gebru (2018) discussed bias in facial recognition algorithms, finding that three popular commercial facial recognition programs performed worse on women and those with dark-coloured skin. These biases can be difficult to detect (Edwards & Veale, 2018), and even if detected, are not easily eliminated. Proposed methods to reduce bias (Calders et al., 2009; Lum & Johndrow, 2016) are only effective if creators identify a specific bias; thus, unidentified biases can still linger. Regardless of whether the bias is identified prior to model building, any bias present in a model's training data will be transferred to the model (Lum & Johndrow, 2016) if no action is taken to mitigate it. Identifying and mitigating potential biases are crucial when developing predictive models, but additional measures are needed to develop ethical models.

A model's transparency is defined by the extent to which the prediction is explained by the model (Eddy et al., 2012), and it is inversely related to the model's complexity. Logistic regression is an example of a highly transparent model, as it shows the direction and magnitude of the relationship between each predictor variable and the response variable (Hastie et al., 2009). Transparent, logistic regression cannot capture complex, non-linear relationships, and thus may have lower levels of performance when compared to other models. In contrast to logistic regression, neural networks are a class of models that are designed to capture complex relationships, and thus achieve higher performance in some circumstances. Nevertheless, neural networks are not transparent (Hastie et al., 2009) as they lack a mechanism to explain how predictions are made. In contexts where predictions affect the well-being of people, predictive model creators should be cautious about using non-transparent models, notwithstanding their potentially superior performance. The European Union's General Data Protection Regulation was developed to protect individuals and their data (General Data Protection Regulation, 2016). This extends to the use of predictive models (Goodman & Flaxman, 2017). Article 13 discusses that the subject has the right to "meaningful information about the logic involved" in models used that "significantly affect (individuals)"(General Data Protection Regulation, 2016, p. 21). This is generally interpreted as the ability to give an individual an explanation of how specific aspects of their data affects their result (Edwards&Veale,2018). Although such regulations do not yet exist for private organizations within Canada, they still demonstrate the necessity for professionals to seriously consider the use of non-transparent models in human-affecting applications. The most conclusive understanding of how a model will perform upon deployment comes from validating performance on new data. Shneiderman discusses how "designers [need] to consider extreme situations and possible failures" (2020,p.6) and validate the model's performance on a wide range of new, independent data sets. Common performance measures include mean squared error (MSE) for a quantitative response variable (Sheiner & Beal, 1981) or sensitivity and specificity for a qualitative response (Altman & Bland, 1994).

No single required level of performance exists: the environment that the model will be used in determines the required performance level. Beyond statistical measures of performance, new data should be used to examine the societal consequences of the implementation of a predictive model (Corbett-Davies & Goel, 2018). In the example of predicting recidivism, model creators should consider how the model will be used to influence decision-making, and the subsequent impact on public safety and on those incarcerated. Using new data to validate a predictive model allows creators to anticipate both the model's real-world performance and potential consequences of implementation.

AI and predictive models are increasingly influencing decision-making and are crucial in the growth of large technology companies including Facebook (Hazelwood et al., 2018) and Google (Pichai, 2018). When developing predictive models that affect the well-being of individuals, creators have additional considerations to make to ensure the successful deployment of their model. To ensure equitable performance on sensitive subsets of individuals, the data used to create the predictive model should be evaluated for any inherent biases that may have negative impacts on those subsets. Model creators should consider the transparency requirements of the context in which their model will be used, and whether the benefits of a transparent model outweigh its potentially inferior performance. Finally, model creators must thoroughly evaluate their model's performance on new data, while examining the societal consequences of implementing the model. As regulations and ethical principles develop across international organizations, these considerations may even become requirements. Altogether, those predictive model creators who pre-emptively anticipate the consequences of implementing predictive models will develop models that are more easily implemented into the decision-making process, while being well-prepared for the future regulatory environment of AI.

Credit: Julie Su

The Era of the Generalist

by Colten Esser | BComm (MKTG) '20

Leadership, Career Resilience, and Strategy

Bringing nearly two years of economic uncertainty to a head, the COVID-19 pandemic has fundamentally re-shaped the business landscape. With new shifts in operations such as remote working, automation, and virtual communication, the perceived (and seemingly inevitable) trajectory of market trends and industry direction has been cast into doubt. Historically, any disruptive event comes with a total re-assessment of labour needs, skewing the alignment of workforce skillsets and market labour demand. The COVID-19 pandemic is no different. As businesses scramble to automate and digitize, many professionals have become ousted not only in their current career position, but also in future prospects. However, amidst the chaotic displacement of the work force, one group silently endures - the generalists. During economic peaks, eyes tend to turn to specialists for opportunities and advancement. However, when economic uncertainty creeps into the picture, the allure of specialization begins to take a backseat, and multi-faceted generalization moves to the forefront of industry. As such, the uncertainty of 2020 marks the beginning of a new era: the era of the generalist.

Specialization vs. Generalization

In the context of the work force, Generalism and Specialism refer primarily to skillset focus. Specifically, it is the balance of depth and breadth one has in their technical and practical abilities. It is important to note, however, that Generalism and Specialism are not mutually exclusive categorizations, but rather a spectrum. Principally, specialists have narrow but focused technical talent, while generalists have foregone the same level of concentrated mastery for a more diversified and holistic mix of competencies. Generalists and specialists manifest differently in the marketplace. During periods of economic stability and technological innovation, specialists thrive as exponential growth and innovation drive up the demand for siloed expertise to fill the increasing complexities of progress. These "kind" times are defined by certainty of expectations and outcome (Epstein, 2019). However, when unpredictability and doubt cloud market optimism, Generalism gains the upper hand. The adaptability and holistic mindset of generalists are better suited for "wicked" environments where uncertainty and rapid change are rampant (Epstein, 2019). This situational versatility is what sets the stage for the rise in generalist demand.

Generalism and Career Resilience

The key factor linked to higher career resilience in generalists as opposed to specialists is not necessarily a result of the content of ability, but rather in the methodology of cross-disciplinary approaches to problem-solving (Ceniza-Levine, 2018). This approach has one key result that gives generalists a competitive edge in career resilience: adaptability. When it comes to rapid, unexpected events that affect one's career path (Negative Career Shocks), adaptability in skillset is an essential part of career resilience (Siebert et al., 2016). Having a diverse skillset to draw from increases the transferability of experience, making career transitions (whether chosen or forced) more achievable. As the rapid uncertainty of the COVID-19 pandemic continues to cloud the future of the workforce, adaptability and resilience give generalists a distinct advantage in their career outlook.

Generalism and Organizational Strategy

Generalist tenacity is not merely restricted in scope to individual endeavours. The resiliency brought about by increased cross-disciplinary knowledge of generalists have a compounding effect when multiple (albeit varied) generalist perspectives are brought into an organization. A pivotal factor in organizational resilience lies in a company's knowledge base, where "a broad and diverse knowledge base can help organizations to develop multiple ideas for crisis reaction" (Duchek, 2019). This diversity, as it relates to experience and skill, is a key factor in organizational success during rapidly developing adversity (Duchek, 2019). In this way, businesses that focus hiring efforts on generalists develop a strategic advantage that allows them to be more flexible, responsive, and accomplished during economic crises.

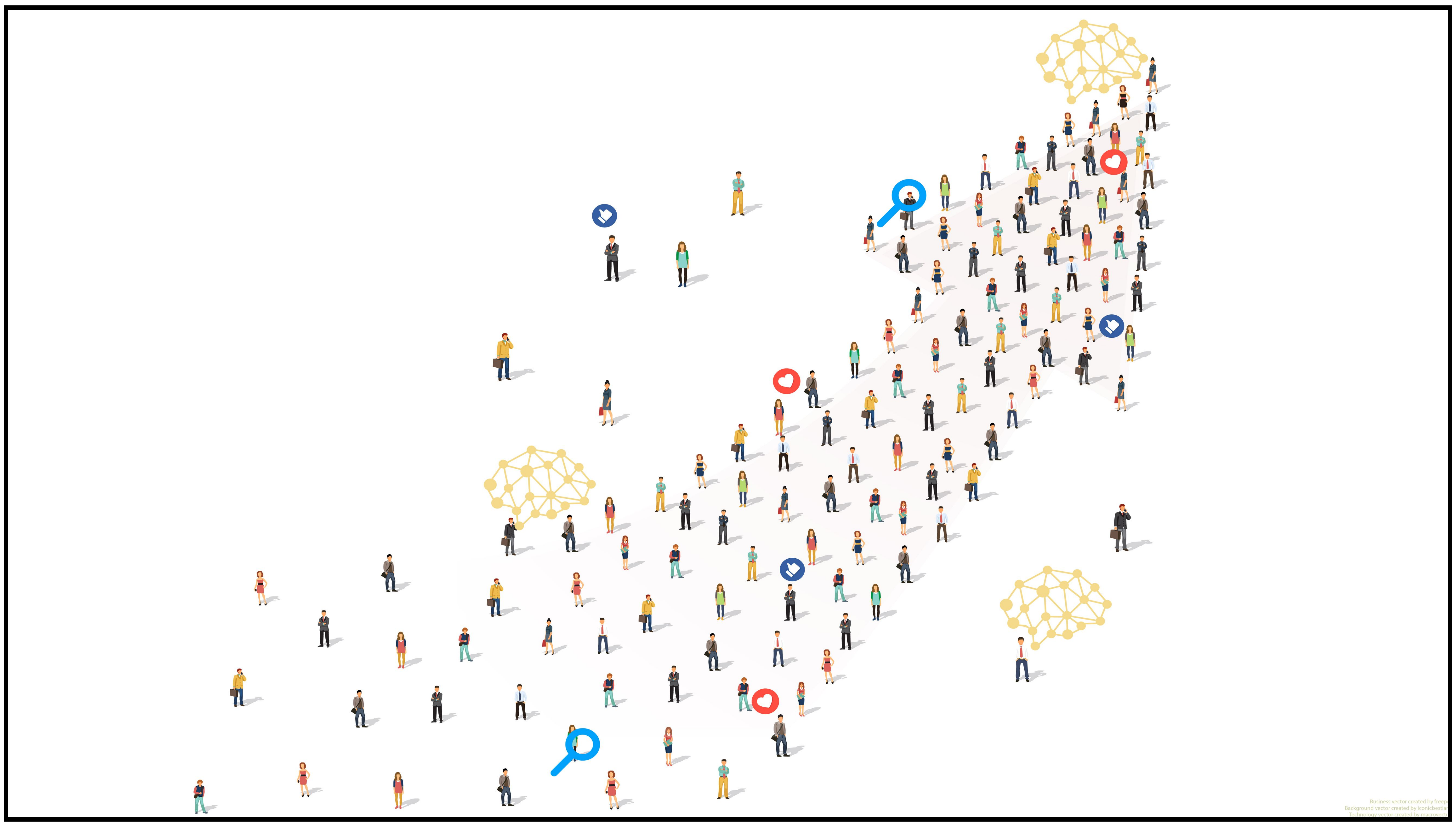
Generalism and Leadership

In addition to the benefits awarded to the individual and organization, the most significant value of Generalism is leadership. There is an irrefutable link between Generalism and leadership. Not only are a higher proportion of business leaders generalists (Berger et al., 2016), but as executives, they also earn a higher income (Custódio et al., 2013). Career advancement benefits aside, the emergence of versatility brought by generalist talent have an essential role in leadership during crises. Dynamic business situations have been found to be best navigated by situational leaders with integrative and versatile abilities, as well as organizations which support high levels of diversity in perspective and competencies (Negro & Mesia, 2020). This intersection of the organization and the individual, as explored in earlier sections, highlights the heavily nuanced and delicate nature of leadership during times of rapid change and uncertainty, which ultimately favour Generalism.

Strategic Recommendations

1. Seeking out training in areas that are transferable, but otherwise unrelated to your specialization is a key strategy to building a more resilient career (Berger et al., 2016).
2. Focusing on transferable experience when hiring as well as encouraging diverse professional development and environmental scanning in current employees can broaden organizational ability (Duchek, 2019).
3. During times of unpredictability, versatile leadership is essential to individual and organizational success (Negro & Mesia, 2020). By assuming a leadership mindset and seeking out additional responsibility, generalists can fundamentally change the direction and progress of their organization, their own lives, and the lives of others.

The novel coronavirus pandemic's sphere of impact is significantly more intricate and complex than any economic crisis before it. Impacting both macro and micro environments, this new economic threat has drastically changed the labour capital needs of organizations. In this new business landscape, generalists offer unique advantages to the work force in their own career paths, to organizations, and as leaders. With organizations and individual professionals working towards increased resiliency and leadership through variation, the future of Canadian business looks a little brighter with the ascent of Generalism.



Credit: Julie Su

Redefining Leadership Through AI

by Yi Chen | BComm (BUSI) '22, BSc (ENEL) '22

As Artificial Intelligence (AI) is the primary digital disruption in the current Fourth Industrial Revolution (Schwab, 2017), experts in various professions increasingly rely on the guidance of AI-based algorithms for high-stake decision-making (Shrestha et al., 2019). For example, artificial neural networks (ANNs) are used in medicine for surgery allocation (Briceño et al., 2014). Additionally, algorithms are used in human resource management for hiring decisions, including C-suite executives (Carmichael, 2015). Artificial intelligence algorithms including ANNs and expert systems are also used in the banking industry, in efforts to build a hybrid intelligent system for credit ranking (Bahrammirzaee et al., 2009).

In the last few decades, leadership scholars have been trying to monitor the effects of digitalization processes, where AI plays an integral part in it (Cortellazzo et al., 2019). Part of the academic debate has been focused on a leader's ability to integrate the digital transformation into their companies and, at the same time, inspire employees to embrace the change, which is often perceived as a threat to the current status quo. Despite the increasing interest in discussing the relationship between digital technology and leadership, contributions have accumulated in a fragmented fashion across various disciplines. While most existing reviews and meta-analyses focus on studies from a specific field, such as computer-human interaction (Wesche & Sonderegger, 2019) or human factors (Oberer & Erkollar, 2018), this article will provide a comprehensive view by offering a systematization of the literature on AI and leadership through an interdisciplinary lens. In addition, recommendations concerning the future of AI and leadership will be provided.

There are two main perspectives concerning the role of AI and its effect on leadership that exist among scholars. The first perspective suggests that while AI assumes more cognitive tasks, there is an emerging "feeling" economy in which the "feeling" tasks of jobs, such as communicating with others and establishing interpersonal relationships, are becoming more important for human workers than the cognitive nature of tasks of jobs (Huang et al., 2019). Leaders should think of AI and human workers as a cohesive unit, transform jobs to be more people-oriented, and emphasize the hiring of individuals with strong soft skills. The other perspective, however, argues that leaders should be more digitally literate. Leaders should understand technology and augment some of their core skills to navigate the digital world, while their core leadership skills (i.e., transformative vision and forward-looking perspective) remain the same (Kane et al., 2019). Additionally, the rationale of this perspective is validated by the joint study of MIT Sloan Management Review and Deloitte.

So… how can leaders capitalize on AI to optimize their decision making? To answer this question, one should first consider several factors. Machine learning AI systems are designed to accomplish specific tasks (i.e., prediction), by accessing and analyzing enormous volumes of data and providing intelligence so that humans can draw insights to make quicker and much more efficient decisions (Metcalf et al., 2019). Wesche and Sonderegger (2019) suggest that computers have begun to dominate leadership functions, guiding and commanding human workers. They further suggest that computers not only assist humans with specific allocated tasks (as in the past decades) but will also determine their working routine (i.e., guide them through their day, allocate tasks, and influence the working pace). However, it must be acknowledged that computers are not fully capable of experiencing human emotions yet. Therefore, leaders should employ proper judgment when making the high-stake decisions. When introducing AI to organizational decision making, leaders should also build internal capabilities to decide on the inputs to the algorithm, the algorithm themselves, and the interpretation of predictions (Shrestha et al., 2019). Finally, when making decisions regarding the tasks to be outsourced to AI, leaders should consider not only the available technological capabilities but also the human participants, their interests, and methods to gain their trust via potential incentives.

AI and leadership have coexisted for years. For this mutual relationship to prosper in the upcoming years, leaders must be willing to be adaptive and build a dynamic skillset. Mike Walsh, CEO of Tomorrow, suggested that leaders need not only a deep understanding of human complexity (i.e., how to motivate people and empathize with clients), but also a flair for computational thinking and the ability to take a structured approach to decision-making. Understanding at a high level how technology does (and does not) work will enable leaders to make informed decisions in times of uncertainty. Leaders with an agile mindset and digital savvy will be able to pivot when necessary.

In summary, AI will best benefit those leaders who study, understand, and use it. In the near future, leaders will be expected to manage machine–machine, human–human, and human–machine teams. Only leaders who understand AI well will successfully lead the company through periods of technological disruption and increase the Digital Quotient of the company (a single metric of digital maturity of a company) (Catlin, Scanlan & Willmott, 2015), and improve organizational effectiveness and long-term sustainability.

Credit: Julie Su

Trends in Finance and Venture Capital

by Grace Chang | BA (PSYC) '22, Valeria Marino | BComm (FNCE) '22, Megan Williams | BA (ECON) '21

Introduction

The world of Finance and Venture Capital (VC) started to gain relevance decades ago with the rise of Wall Street firms that held a traditional approach towards investments and returns by focusing quite heavily on profitable margins. In recent years, the industry has undergone a transformation that directed it towards new drifts based on the improvement of technology and the increasing concern regarding social and environmental issues. This article aims to discuss trends related to technological advancements across the energy, agriculture, and public policy industries; as well as to inform about gender equality and sustainable development movements.

Women in Finance

Historically, women have been underrepresented in the field of finance and venture capital. Yet, in recent years, there have been joint efforts from the private equity sector to promote gender equality in the business sphere (McKinsey & Company, 2017, p. 97). This change is sporadically prevalent across the industry but there is a common consensus about the openness and support that should be shown to women-led enterprises (p.1). A clear action that advocates for this leap forward in gender equality is the creation of financial platforms such as The 51, which is an organization that "aims to make Canada the centre for female-powered capital" (The 51, 2020). In just one year, The 51 has generated $6.6M and invested in 19 ventures (2020). On a broader spectrum, gender diversity among investors boosts financial performance for VC firms (Chilazi, 2019, p. 2), and venture capitalists have communicated that they were exceedingly impressed by the number of women that have demonstrated their capacity for developing groundbreaking ideas (Sahadi, 2019). It is expected that the capital behind the fortification of this trend will continue to rise in the coming years (Stengel, 2020).

Agriculture

The future of agriculture lies with Artificial Intelligence (AI). At this point in time, it seems almost impossible to overcome the constraints being faced by the agricultural industry today, including scarce land to grow food for a growing population (Claver, 2019).

With this being said, AI is currently being used to grow healthier crops, to monitor soil and growing conditions, and to improve the agricultural supply chain (Claver, 2019). This could also provide solutions to help optimize the agricultural industry, which could act as an alternative method to help reach our food production goals. AI can be used to create detailed weather models so farmers can track weather patterns months in advance, allowing them to make the right decisions for their crops and their farms (Intel, 2020). Another use of AI, called precision agriculture, is a technique in which farmers can use AI to detect crop disease and pests, and can even allow a farmer to determine which type and volume of herbicide needs to be applied to target a specific weed (Walch, 2019) It is clear that scientists are pioneering technology that is able to completely control the growing environment of crops. This gives scientists, and farmers, the ability to not only determine exactly when crops will be ready for harvest, but when crops mature (Intel, 2020). By controlling factors such as the light the plant is exposed to, the farmer can optimize his harvest and utilize his resources more efficiently.

Energy

Another issue pertinent to venture capitalism is an increase in the consideration of sustainability in decision-making and value creation. In the present social and economic environment, ESG analysis has also revealed a balance between ethics and profitability which has allowed it to become a much more relevant criterion in asset management (Guest, 2020). The new criteria provide an ethical and responsible way of investing while generating returns, which appeals to investors as sustainable investing and impact investing increase in popularity (Stevens, 2020). Furthermore, large non-profit organizations, such as the Creative Destruction Lab (CDL), are orienting their focus towards start-ups that provide innovative and sustainable solutions to current problems by raising capital and working along with experts in the field of sustainable energy development (CDL, n.d. –a). For instance, the energy stream of CDL has been delivering an objective-based program for companies that have massively scalable products and systems with various purposes such as reducing the carbon footprint of the oil and gas industry, as well as analyzing disruptive ideas that allow for improved hydrogen production, among others (CDL, n.d. – b) This indicates that there is a growing interest in sustainable initiatives.

Prime

Startups exist in an intricate environment of regulation and public policy interests. This environment has multiple components with individual yet intersecting laws at the municipal, provincial, and federal levels, all against a backdrop of public and private interests. In an instance where a startup might view an opportunity for disruption in regulated markets, lawyers advise caution. Many regulations exist to encourage legal compliance with certain policies. If we are to take Airbnb and Uber as case studies, each one of these companies has dedicated extensive resources to establishing regulatory, legal, and policy teams; in order to lobby public relations, defend lawsuits, and maintain thorough legal compliance (Epstein, 2018). Thus, it can be safely assumed that regulation in and of itself is a high stakes endeavor for any company, not just a startup. Considering the highly competitive nature of the modern-day business landscape, even if a startup is to absorb fees for non-compliance, the ancillary stress and distraction may represent a serious concern for a company. Another key component of the startup ecosystem is the importance of cybersecurity. Keeping a startup safe from hackers, data theft, and security breaches requires more than simply firewalls and an antivirus software. The global stage has increasingly become aware of the serious threat that hacking poses for the reputations and finances of small business and corporations alike (Sundar, 2017) The consequences of privacy should be considered with caution as they are complicated, time-consuming, a burden on resources, and can ultimately mean the demise of a business.

Note: The information provided in this paper was partially acquired through the efforts of the UCEED Haskayne Student Fund (UHSF), western Canada's first university-based private equity fund run and managed by students.

Credit: Jaymee Caparanga

Data Privacy: Why Honesty is the Best Policy

by Omar Razavi | BSc (BIOL) '20, MMgmt '21

The hallmark of successful businesses is the ability to create value for the consumer. It is value that predicates the importance of goods and services that businesses can leverage to generate revenue and pursue operational goals. With this being said, it is important to note that value can go beyond monetary definitions. As long as a business can create an offering that aligns with consumer perceptions of value, an offering can be said to be beneficial. The same is true when it comes to user data. In order to surrender data to a company, a consumer must perceive enough benefit in the product or service to outweigh the costs of surrendering data. However, this paper will argue that users do not accurately know how to assign value to their data based on a lack of transparency with regards to the methods used to collect the data, its nature, and the way it is used.

It is no secret that companies are collecting user data (Freedman, 2020). Companies regularly capture consumer data and store it to later be analyzed. User data provides businesses with a greater understanding of day to day operations, and ultimately leads to better business decisions (Freedman, 2020, para. 2).

Many consumers are aware of user data collection. However, despite the risks involved, most choose to dismiss the risks and costs associated with the collection of user data in favour of instant gratification. While data acquisition is commonplace in the modern world, the nature of the data collected, coupled with the purpose of its acquisition, remains a mystery. Consumers are uninformed as to the specific types of data that businesses are collecting (Morey et al., 2015). For example, in the case of user location, only 25% of consumers are aware that their data is being collected (Morey et al., 2015). Furthermore, with respect to web-surfing history, only 14% of users are cognizant of this fact (Morey et al., 2015). Evidently, most consumers have little understanding as to the collection of their personal information. However, in cases where consumers are aware that their data is being collected, not all data is valued the same. This value also differs internationally and does not remain consistent when put in a cross-cultural framework (Morey et al., 2015).

Placing universal value on data is simply impossible as all cultures have varying perspectives that shape value (Kitayama & Park, 2010). With respect to data protection, the price that individuals are willing to pay is related to cultural values that exist internationally (Morey et al., 2015). Take, for example, government identification. In the United States of America, citizens value the protection of government identification data at $112.20, while, to citizens of India, it holds negligible value (Morey et al., 2015). Moreover, examining health history data, Germans assign a value of $184.20, yet consumers in the United States associate little price to it (Morey et al., 2015). These findings provide an opportunity for businesses to better understand their consumers' values, and to create a more culturally aware value proposition.

As companies learn to understand the perceived value of user data to consumers, they can learn to make increasingly more informed decisions on how to use it and ethically attain it. Ultimately, to maximize value for consumers and corporations alike, businesses must adopt a more transparent methodology of data acquisition. Not all organizations garner the same level of trust from its consumers. While primary care doctors are universally trusted in handling patient data, social media firms have lost the trust of their consumers (Morey et al., 2015). In order for businesses to be successful, they must build trust without the expectation of it being automatically given. Furthermore, while it takes time to build trust, it takes only an instance to break it. Many companies adopt an "ask for forgiveness, not permission" mindset that has contributed to scandals across an array of different industries. Take for example the social media powerhouse, Facebook. Without the consent of its users, millions of Facebook users' data was retrieved by Cambridge Analytica to eventually be sold to political campaigns (Confessore, 2018, para. 2). While the rate of Facebook users continues to climb, analytics suggest that Facebook usage has fallen nearly 20% since the scandal (Hern, 2019). Moreover, a survey conducted by Ponemon Institute in 2018 found that following the data breach, trust in Facebook has fallen by 66% (Weisbaum, 2018).

While the multi-billion-dollar legal settlement looms large over the finances of Facebook, the greatest cost of the data breach was not the legal fee, yet instead the loss of user trust.

So, how do organizations build trust in their consumer? Firstly, companies must remove the veil of secrecy as to the processes and purposes of data collection. Not only should a company make it explicitly clear as to what data it plans to collect, but it should also provide an explanation of how they plan to use it. In particular, consumers should be made certain that the data they forfeit is being used to benefit them. Secondly, companies must ensure that users control their own data. Users must provide consent on the sharing of their information, which includes more transparency with regards to how companies plan to use the data. Finally, companies must be responsible with the data in which the consumer consents to give. They must remember that while the user may consent for the data to be held by the company, the consent does not extend past that firm and therefore the data must be secure. As such, it is critical for the company to properly manage its user data, while allowing for the consumers themselves to make decisions to how it can be used,

Transparency in the collection and use of consumer data is entirely essential for a business to establish trust. In the absence of transparency, not only are consumers unaware of what data is being collected, but also of how the data is being used to create value for them. It is only when a foundation of trust is built that companies and consumers alike can realize the true value of user data collection.

Credit: Jaymee Caparanga

Small Businesses on Life Support: Positioning for Recovery

by Krupa Brahmbhatt | BSc (KNES) '22, Alim Nimji | BComm (ACCT) '23, BA (ECON) '23

Calgary small businesses are a driving force for the local economy, accounting for 95 percent of all businesses (City of Calgary, 2019). Not only do small businesses provide a paycheque for residents, but they are also important for the vitality of inner cities (City of Calgary, 2019). Small businesses act as employers, entrepreneurship engines, economic multipliers, and community hubs (Dua, Ellingrud, Mahajan, & Silberg, 2020). As employers, small businesses have accounted for half of private-sector jobs and for two-thirds of net new jobs created from 2000 to 2017 (Dua et al., 2020). Additionally, small businesses create unique entrepreneurial opportunities, especially for women, minorities, and immigrants (Dua et al., 2020). Larger firms also frequently rely on small businesses to act as suppliers or direct customers for B2B services. Nevertheless, approximately 50 percent of small businesses fail by the end of their fifth year (Kolowich, 2020). The primary challenge faced by small business owners are problems with cash flow (Guidant Financial, 2018).

Start-up small businesses, in particular, frequently lack both a credit history and the collateral necessary to obtain a loan, making informal funding the most common source for new enterprises. About 80 percent of start-ups use personal financing, 45 percent use loans from financial institutions, and 19 percent obtain commercial loans from suppliers (Services, 2016). This can be a difficult roadblock for small businesses, as most of the time, there are just not enough funds available to them to use. Expenses generally exceed income in the early years of a small business and most businesses operate at a loss in the first couple of years. In addition, small businesses make cash flow mistakes too early in their business cycle. One of the fastest cash-flow killers, especially for small businesses, is the product of unpaid invoices from customers (Hecht, 2015). If a business is not diligent in obtaining payments from its customers, they may be on their way to a risky cash flow situation.

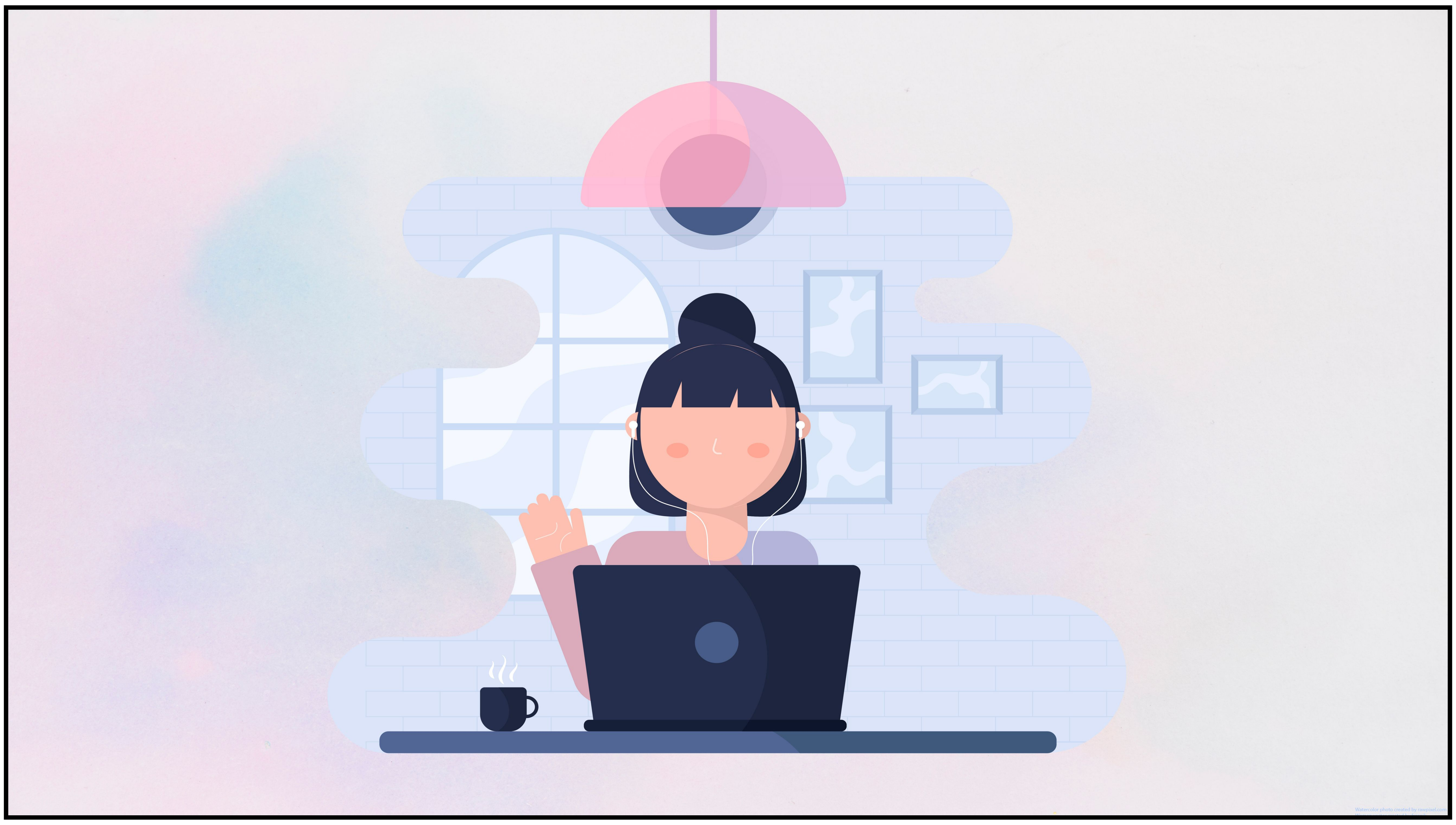
Problems in cash flow also may not allow for allocation of funds to marketing. As a result, small businesses may find it challenging to attract and retain customers. Furthermore, large and well-established firms pose a threat of rivalry and hinder the chances of small businesses to gain customers. Larger businesses have the budget to market their products and services more marketable compared to smaller businesses. In addition, there are staffing differences between small and large-sized business marketing. While small businesses blend marketing with the leadership function due to limited resources, major corporations tend to have a clear designated role to carry out marketing responsibilities (i.e., a vice president of marketing) (Schenck, n.d.).

As a result, small businesses must innovate and adopt novel technological processes to survive. The Business Development Bank of Canada (BDC) has identified investing in technology and developing a solid online presence as two potential areas for future growth (Women's Enterprise Centre, 2020). Small businesses should utilize social media in efforts to resolve previously mentioned challenges. Social media remains a valuable communication avenue. Currently, only 18 percent of small businesses have an online presence but 80 percent of Canadians research online before they buy (Women's Enterprise Centre, 2020). Using social media can not only build brand awareness and increase one's customer base, but can also reduce overhead costs. Approximately 80 percent of small businesses that invest in technology can see a positive return on their investment (Women's Enterprise Centre, 2020). Additionally, small businesses should use webinars to set up community meetings, promotional presentations, and special promotions. For immediate download, companies should have tutorials, demonstrations, or new certification sessions as webcasts or podcasts readily available. To see which ones are cost-effective, small businesses can compare all of their marketing activities and match each activity's cost to the benefit it brings to the small business.

Consumers today desire personalization and instant gratification. Thus, small businesses should invest resources in building an online presence on platforms such as Facebook, YouTube, and Instagram. Small companies tend to be more community-based and individual-oriented. Many small businesses prefer to be heavily active in their neighborhoods, which contributes to consumer relations. With social media, these small businesses can advertise to their current customers and advertise to potential customers. Their current customers are excellent brand ambassadors and can be used to attract new customers (Post, 2020).

Having personalized customer service and a personalized website for their customers can be highly effective. Companies that prioritize the customer experience generate 60 percent higher profits than their competition (Furgison, 2016). Additionally, customers take note when businesses offer personalized service. A survey shows that 76 percent of clients agree that customer service is a reflection of how they are valued by an organization (Furgison, 2016). It creates a level of treatment that customers enjoy and come to expect if the business provides the personalized service on a consistent basis. Other studies further suggest that many customers agree that the largest motivator for spending is customer service (Amaresan, n.d.)

Governments should also play an active role in assisting small businesses. The health of businesses is an appropriate reflection of the health of a nation's economy. Governments should provide sector-specific support as small businesses are the most vulnerable sector due to effects of COVID-19 (Dua et al., 2020). They should work with private financial institutions to improve access to credit or emergency grants and loans, and incentives for small businesses to upgrade and adopt new tech processes (Dua et al., 2020). In response to the current pandemic, governments should establish local portals to help customers support small businesses (Dua et al., 2020). They are the main employers in Canadian provinces and contribute approximately 38 percent of Canada's gross domestic product (Mire, 2019).



Credit: Julie Su

The Rise of the Freelancer: A Workplace Reimagined

by Laju Edema | BComm (BTMA) '24

Over 50 years ago, John F. Kennedy said something that is still relevant today. He said: "Change is the law of life. And those who look only to the past or present are certain to miss the future" (Ross, 2017). What is interesting about this quote, is that it does not negate the difficulties that come with adjusting to change. Rather, it provides a practical approach to it: acceptance and advancement. Change is the only constant, or as JFK put it, "law of life." Because of this, searching for opportunities and methods of advancement is an act of self-preservation. COVID-19 has changed the way we work, and perhaps more permanently than one might think.

The telework industry is growing into a worldwide phenomenon. In March 2020, we saw a 40% increase in the number of Canadians who worked from home (Langton, 2020). This is no surprise, considering the benefits: unnecessary meetings can be condensed into an email, there is no commuting time, and the cost of owning office space is immensely reduced. The quality of the output does not suffer, either. One Stanford study found that people who worked from home were 13% more productive than their office-based co-workers (Birkinshaw & Cohen, 2020). In fact, 4 in 10 Canadians are in jobs that could be carried out efficiently at home, with positions in finance, education and technical services forming the majority (Deng, Zechuan et al, 2020). One crucial benefit to remote work which the current and future generation of workers should leverage. With telework, employers can hire people who are experts in their field, location negligible.

Most individuals have some sort of talent or skill. Freelancers are people that capitalize on their skills by independently working with different clients, providing a service that they are experienced in. The burgeoning industry of telework breeds an advantage to freelancers as they are the aforementioned experts in their field that can provide quality and niched work to a variety of clients, all without the commitment of an in-house role. It can be quite profitable too. A study by MBO Partners found that there are more than 15 million full-time freelancers, with 1 in 5 earning more than $100,000 per year (Samrega, 2019).

There are challenges to working as a freelancer and it is important to consider them. A freelancer may find themselves asking the question that many entrepreneurs do before they embark on a venture: "What does the world have plenty of, and what does it need?" It is common for freelancers to struggle to understand what service will actually utilize the skills they have. In an industry that is based on what one knows, it is tempting to adopt a jack-of-all-trades attitude and reason that the more services one puts out there, the more profit there is to be made. A jack-of-all-trades is the master of none, and to provide the most value, mastery is the key. The way to stand out in even the most concentrated of niches is to specialize as much as possible (Cordova, Alexander, et al. 2017). Specific expertise is more valuable than general knowledge, and in terms of profit, exclusivity creates demand. The less competition one has, the higher rates one may charge. With that approach in mind, the risk of burnout from stretching oneself too thin is mitigated and the focus is not on how much one can do, but how much value one can provide.

In the face of uncertainty, the most many of us can do is position ourselves for the best outcome and hope that it works out. Setting oneself up for the best possible future requires dedication to constant improvement and learning. This not only equips one with the skills they need to bring a positive impact to the workplace, but it also prevents stagnation. Developing marketable skills is empowering, especially in such a highly competitive job market. It is a response to change that is rooted in adaptation and advancement. Marketable skills give one an edge, and it is important to showcase that edge in a strategic manner - freelancing is such an option (Cooper, 2013). At the beginning of one's career, freelancing is a way to showcase these skills, and moreover, freelancing solidifies one's professional online presence in the most crucial stages with a portfolio and reviews from real and satisfied clients.

Self-assessment, learning, refinement, and working are all elements in a successful freelance career, but more importantly, are key steps in a journey of self-discovery. As the job market becomes more competitive and saturated, many have already learnt the importance of having specialized and marketable skills. Just to increase their chance of employment, more people find themselves returning to school to supplement their degrees with extra certificates and skills. Seeing opportunity where others see obstacles and chaos has always played a pivotal role in surviving and thriving in environments of upheaval. No single person can raise an entire economy out of a recession. A single person can only decide to do their best with what they have. If change is the law of life, then there will always be the opportunity for innovation to come alongside it.

Credit: Jaymee Caparanga

Higher Education Institutions and Impact Investing

by Emily Chen | BComm (ACCT) '23, Laura Foster | BComm (MKTG) '21, Sunand Kannappan | BHSc (Hons.) '21

Motivations and Challenges

Over the past 60 years, technological innovation and enterprise have driven a dramatic increase in life expectancy and quality of life. However, the capitalist model that prioritizes such technological innovation has faced increasing scrutiny in recent years, given the exacerbating externalities of this model – including worsening social inequities and environmental concerns (Manyika, Pinkus, & Turin, 2020). As such, another economic shift is essential. Our model of capitalism must evolve to address social inequities and environmental concerns while providing innovation and economic growth.

Of interest, the belief that companies must sacrifice returns for societal change is being challenged, with the widespread uptake of Environmental Social Governance (ESG) frameworks in corporate decision-making. These frameworks focus on operational risk and how the environmental and social factors contribute to that risk (PwC, 2017). An emerging approach to catalyzing a shift in economic thinking is impact investing, which creates measurable, positive social and environmental change alongside a financial return. Impact focuses on the total contribution of investment towards sustainability with a strong focus on products and services. Although nascent, impact investments are a rapidly growing asset class that focus on providing capital to generate positive and measurable impact, while also providing a financial return. While impact investing is an important tool to fast-track the development of emerging socially impactful industries/practices that may not be supported by traditional investment approaches, there are gaps in this area that necessitate the involvement of novel and influential actors.

Although the need for impact investing is becoming recognized and supported, it is challenged by a vague definition. This is especially problematic, given that an impact investment mindset is likely to be a fundamental and irreversible shift in capital markets that will require significant buy-in from stakeholders (Sand, 2015). As we are in the early years of this shift, impact investing is also challenged by the absence of clear impact metrics and measurements. Because there is a lack of clear understanding, we have not yet reached a widely accepted framework to assess and measure impact in this way (KPMG, 2019). Impact measurements also suffer from a lack of expertise. As this change is primarily taking place in the private markets, it is difficult to publicly share results, creating an information divide (KPMG, 2019).

Institutions and Landscape

Higher Education Institutions (HEIs) are defined as organizations that offer postsecondary education, typically comprising universities, colleges, and further education institutions. HEIs play a critical role in the knowledge economy — their core mandate is to facilitate the transfer of knowledge to prepare its graduates for the workforce. Consequently, HEIs are uniquely positioned, as compared to the government, enterprise, and other non-profit organizations.

Firstly, HEIs can drive change to the status quo through a culture of innovation. HEIs can spark change through their capacity for knowledge creation. Although HEIs do not have a monopoly on knowledge production (Chatterton & Goddard, 2000), their substantial funding makes them significant players in the innovation process. In 2017/2018, spending on research and development activities in Canadian HEIs totalled $14.3 billion, resulting in the eighth consecutive annual increase in growth for this category (Statistics Canada, 2019). In response to strong financial backing and a traditional emphasis on research, HEIs have fostered a culture of innovation that is conducive to the exploration of new ideas. Their resources and networks can prove invaluable to the experimentation and development of impact investing.

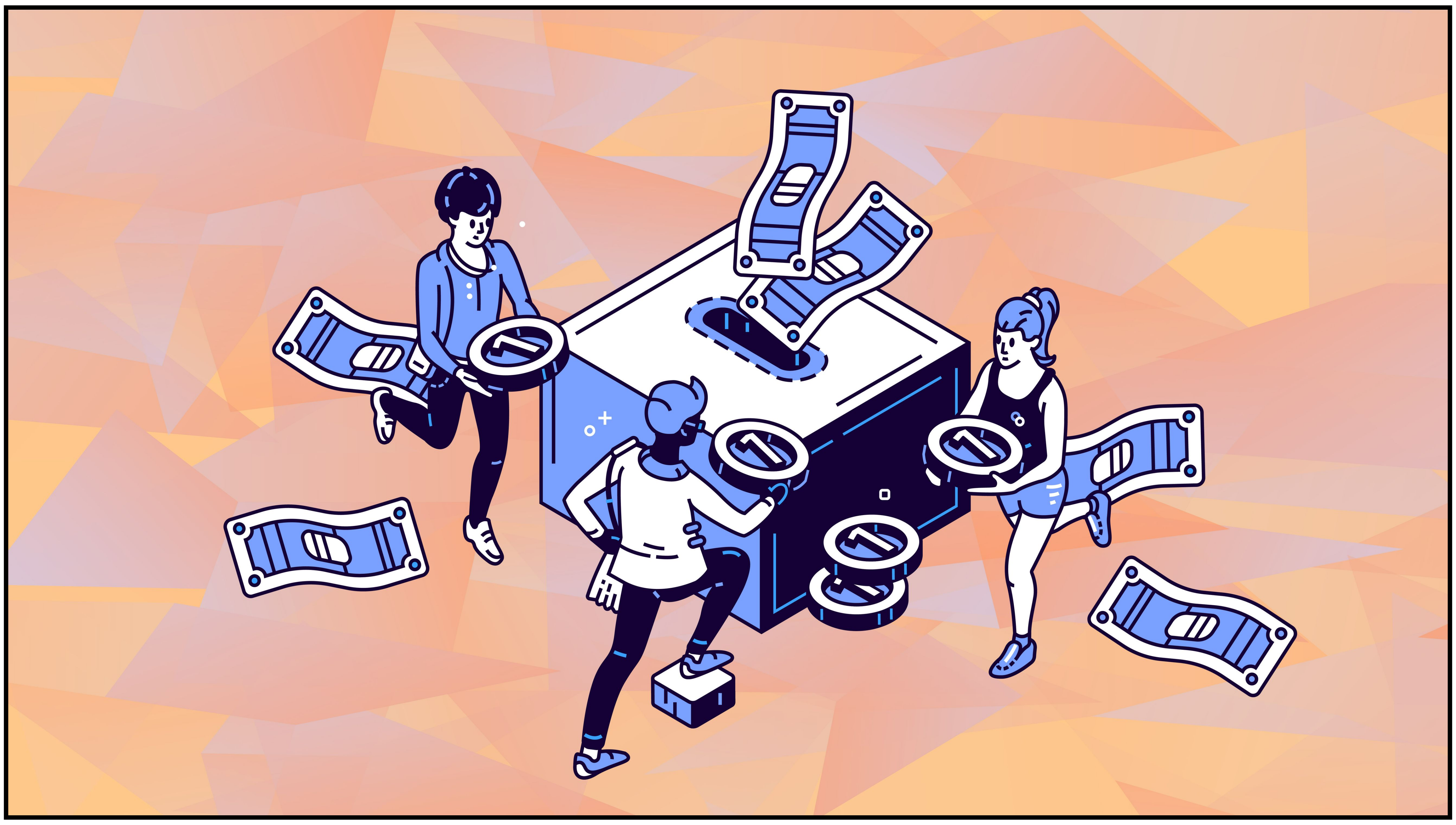
Secondly, the impact of HEI policy changes are magnified due to their size and influence. It is well supported that HEIs are critical to the development of human capital and economic growth (Cvecic et. al, 2019). Institutions can effectively propagate ideas and information through the design of a robust curriculum and quality teaching practices. As such, HEIs can substantially influence the perceptions of its graduates—an impact that is further magnified by the sheer volume of students, and average four-year turnover for a degree. From a wider perspective, HEIs also possess strong connections to industry and alumni networks, making them influential stakeholders in the local economy. These attributes provide HEIs with an edge over other organizations in their capacity to amplify change.

Impact Investing

As social impact curriculums become a differentiating factor for students choosing a school, universities must be careful about how they approach impact investing. The largest barrier for HEIs is access to expendable capital as institutions cannot make investments themselves because it risks legitimacy. It is a concern that HEIs will make revenue outside of their core mission - education. As an intermediary, it is difficult for HEIs to define where the role ends in an effort to not risk their neutral position as educators (Bonnici, 2020). Therefore, universities must be careful in balancing the role of educator with fundraising and providing capital. Another concern is streamlining impact investing projects to be scalable in education curriculums. Since impact metrics are still ambiguous, it is difficult for institutions to provide consistent experiences for students.

HEIs are in an opportune position to develop standards for impact investing and assessing social impact. As the majority of impact progress is being made in the private sector, transparency and cooperation are lacking in discovering new processes. Through their neutral stance, schools can support multiple stakeholders, generate knowledge, and provide experience in a supportive environment. HEI should partner with other universities to create cohesive frameworks, engage in cross-cultural perspectives, and improve on existing theory (Rotondaro, 2020). As a neutral institution, HEIs are also in the perfect spot to support private business and engage systematic change with governments. For instance, HEIs can assist in due diligence, create metric frameworks, and lobby for policy change. As research institutions, HEIs must generate knowledge through case studies, conferences, academic publications, and workshops. Credibility from universities will contribute to cohesively defining the impact investment space. Lastly, HEIs must offer impact investing experiences to undergraduate and graduate students to remain competitive and further social change. Social impact classes should be offered to students and universities should also support social finance funds and clubs for students who wish to pursue more experience.

Note: The information provided in this paper was partially acquired through the efforts of members of the Calgary Social Value Fund (CSVF), most notably co-founders Tyson Bilton and James Dick.



Credit: Julie Su

The Worker Cooperative: A More Humane Economy

by Christian Lowry | BA (POLI) '21

Defenses of the Market Economy

Market economies have received intense criticism due to their purported flaws, including occupational hazards, inequality, unpredictability, unsafe products, outsourcing, pollution, and maldistribution of essential goods and services (Abel, 1982; Kropotkin, 1907, pp. 3-14; Lange, 1937, pp. 123-125, Christiansen, 1982, pp. 270-271). However, advocates of the free market claim that it preserves liberty, since economic activity lacks coordination from a repressive government (Friedman and Friedman, 1980, 2-3, 9-11, 14). Many also assert that individual creativity flourishes, since participants receive the full rewards of success (ibid., p. 24).
However, such cases rely on a false choice between the centrally-planned economies of the former communist world and the market economies of everywhere else. There is another economy that can satisfy the desire for both freedom and utility: the worker cooperative, in which employees make decisions democratically.

Flaws in the Market Economy

If the free market fulfilled the conditions set by its defenders, cooperatives would be far less compelling. However, the freedom of the free market is riddled with inconsistencies. Workers are told how long to work, what work to perform, what to wear, what facial expressions to have, what to say and when, and, depending on how they are paid, how they can live (Glasier, 1919, pp. 168-170; Cohen, 2001, p. 5, 8, 16-17, 27). If they violate the rules of the firm, their employment can be terminated, leaving them without secure access to the means of life (Kropotkin, 1907, p. 4, 11). It is unsurprising, then, that a recent survey found that 47 percent of Americans want to leave their job (Liu, 2019). While employees can always quit, they almost always end up at a job where the same balance of power prevails (Connolly, 1997, p. 48).

The Utility of a Cooperative Economy

Cooperatives, however, can rejuvenate the market economy in a number of ways. First, workers decide their pay, their working conditions, what goods and services to provide, and other aspects of employment (Perotin, 2013, pp. 40-41). These benefits forge a strong attachment to the cooperative (Richards, 2012, pp. 9-10). Second, there is greater equality within worker cooperatives. In the United States, the average income ratio between CEOs and their employees is 296 to 1, while in America's largest worker cooperative, Cooperative Home Care Associates, the ratio is 11 to 1 (Rieger, 2016).

In Spain's largest cooperative, Mondragon, the figure is 9 to 1 (ibid.). Third, employment in a cooperative is also more stable. Instead of laying off workers to save money during an economic downturn, the cooperative's members can vote to shoulder the burden collectively by cutting pay instead of jobs (Perotin, 2013, p. 40). Fourth, worker cooperatives are more suitable for isolated, underserved regions (ibid., pp. 41-43). They do not need to constantly expand in order to make money for absentee executives or shareholders. The democratic process also prevents the firm from offshoring, ensuring that jobs remain within communities. Fifth, the participatory, egalitarian structure of cooperatives deters perverse leadership on the part of managers (ibid., p. 41-42). Since compensation and decision-making processes are social rather than private, fewer incentives exist to engage in harmful practices. Sixth, cooperatives survive longer than conventional firms. A 2008 study by the Government of Quebec showed that 74 percent of cooperatives survived for at least three years, compared to 48 percent of conventional firms (Richards, 2012, p. 9). In Alberta, the figures were 82 percent and 48 percent, respectively (ibid.).

Objections to a Cooperative Economy

There are various criticisms of cooperatives or other redistributive schemes that could also apply to them generally. These arguments assert that more equal compensation and control will ruin the material incentives to start new businesses or to attract talented management to existing ones, that worker cooperatives suffer from a lack of innovation, that ordinary employees are too inexperienced to run a business, that their participatory system of decision-making is cumbersome and slow, and that there is a lack of precedent for the widespread formation of cooperatives. Such objections can be addressed. First, the maximization of income per worker motivates exceptional work (Perotin, 2013, p. 39-40). Differential compensation can still be approved by workers. Limiting managerial compensation is not unlikely to drive innovation. If the genuinely skilled innovator wishes to receive exceptional compensation, it should be tied to the number of useful innovations instead of a perpetual reward for the original, ensuring that more innovations will be developed for the same reward (Schweickart, 1980, p. 14-15). Alternatively, qualitative incentives can entice managerial talent to join a cooperative, such as the pleasure of authority, the satisfaction of community service, awards, and publicity (ibid., p. 91; Walzer, 1980, pp. 252-253; Wilczynski, 1973, p. 225). Second, regular opportunities for employees to contribute and vote for suggestions mean that innovation survives. Third, giving employees control of their employment motivates them to become more literate about the workings of a business. The various talents of all employees are utilized in cooperative decision-making, and consultants can be summoned to provide the necessary expertise. Fourth, if management believes that there are too many workers for the decision-making process, they can elect representatives to a larger cooperative federation. Mondragon employs 81,000 people across 96 cooperatives (Mondragon, n.d.), and each firm is represented in Mondragon's legislature (Bibby, 2012). Fifth, worker cooperatives (or producer cooperatives, as their agricultural counterparts are known) currently employ over 263 million people globally (Eum, 2017, pp. 21-23). Additionally, many people are already accustomed to controlling their own work, such as the self-employed, who comprise 15 percent of the workforce in Canada and 28 percent in the United States (Yssaad and Ferrao, 2019; Pofeldt, 2020).

Conclusion

In sum, it is clear that the free market can be improved. Worker cooperatives can endear people to their employment while delivering the goods and services that they all need and enjoy. The point of a cooperative economy is not to completely replace the market economy, but to improve it. The political philosopher G.A. Cohen observed that "people can do… nothing without using parts of the external world." (Cohen, 1986, p. 113). It follows that democratic control over the economy is of great importance to human well-being, not just in maximizing the utility of the economy, but also in the control people have over their own lives. It is possible for people to guide their work, benefit from it, and meet the demands of consumers at the same time.

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