

# report

FORESIGHT:

## A DEEPER DIVE

Foresight: A deeper dive

Phase 1: A microtasking signals sprint

Phase 2: Microwork trends to consider

Phase 3: What's driving microwork

Phase 4: Implications of microwork futures



## A deeper dive into microwork

Secondary research provides a good basis for much labour market analysis. In this project, however, we faced the challenge of finding good information on Toronto's invisible workforce, specifically related to microtasking. Therefore, TWIG decided to dive into foresight methodology to reduce uncertainty.

# Foresight can improve the resilience of program design and create readiness for the possibilities of the future.

The futures of microwork are the result of meticulous collection and analysis of the changes that are actually taking place right now. While the facilitators applied creative thinking to develop the scenarios, they were working with a creative logic that was derived from data and participatory action research. Each phase of the foresight project builds on the research and insights gained from the prior phase. So when we arrived at the project's **five areas of strategic perspectives**, we had processed thousands of inputs.

The microtasking research team applied foresight to:

- Systematically consider plausible, possible, and at times improbable futures
- Understand the implications resulting from these different futures
- Use the insights gained to improve present-day planning and decision making

## Phase 1. Signals of change

The project started with a signals sprint by a class of University of Toronto Scarborough students. The students provided 374 signals and the researchers found an additional 104 signals. The research team also reviewed 85 reports on non-standard employment, the gig economy, and specifically microworking. From the initial research phase, **twelve microtasking trends** surfaced.

Output: **Microtasking signals sprint**

Output: **Microwork trends to consider**

## Phase 2. Expert interviews and roundtables

The trends provide a sense of how people are working. Next, we needed insights into what is driving the changes to the way people are working. We reached out to 58 subject matter experts identified through project research. Nine people participated in one of two roundtable sessions held on October 30, 2019. We spoke with other experts in individual interviews to help us with specific aspects of microwork. The roundtables and interviews informed the drivers used to develop the scenarios in workshop 1.

**Output: What's driving microwork**

## Phase 3. Foresight workshops

The foresight workshops were designed to consider how microwork might affect **life in Toronto over the next decade**. They were attended by program designers and managers, standards setters and policymakers, and other stakeholders in the area of workforce development.

We also wanted to ensure that at least one person at each table was a young person who was living with non-standard employment as their reality. A small honorarium was offered in recognition that their time was not being compensated through an employer.

We also wanted to create an opportunity for Toronto's social service agency staff to think about how microwork. Early research indicated that it is likely to affect their clients and programming in the coming decade. So we also made an effort to get people working in the field around the table. Marco Campana reached out to human services professionals and prepared an article on the top five questions they have about microwork >

The half-day workshops were knowledge-building and sharing opportunities. However, they were also a no-fee professional development activity that introduced microwork. The workshops were rated as informative and highly interactive, and we offered a certificate of completion for professional development purposes.

**Maggie Greyson** and **Cheryl May** led the workshops. Each workshop consisted of four working tables. The workshops were facilitated by **Alastair Cheng**, **Ana Matic**, **Goran Matic**, and **Marco Campana**. The facilitators also authored the scenarios that were distributed between workshops. Following workshop 2, the facilitators populated implications and strategic perspectives databases based on their notes.

### Workshop 1. Scenarios

The first workshop was held on December 10, 2019. Participants considered the change drivers, then selected the top two drivers based on importance and uncertainty. Then each team was given a set of drivers. Finally, they developed the framework for four microtasking scenarios for 2030.

Participants were not asked to bring any specific knowledge of foresight or microwork.

### Workshop 1 pre-work

Apart from completing a brief questionnaire, all you need to bring is your perspective, voice, and creativity. To prepare for the workshop, we've have identified six drivers that contribute to the growth of microwork. Your pre-work is to rate each driver according to how it makes you feel, your level of uncertainty, and impact. Please complete the online questionnaire. It will take approximately five minutes.

A brief talk by [Julian Posada](#) level-set the discussion about microwork. Julian also prepared an article for this report. [Microwork and the Platform Economy](#).

[Alastair Cheng](#) provided a pre-workshop brief that highlighted some of the reasons why a look at microtasking is important.

- The numbers of people involved in the online gig economy continue to rise, as evidenced by the Online Labour Index.
- World Bank findings indicate that statistically, the majority of microworkers on Mechanical Turk are women and that overall, young people are over-represented in online outsourcing jobs.
- The technological and algorithmic intermediary between work and employer triangulates the relationship in ways that fall outside established standard and nonstandard employment agreements.
- From the perspective of the economy, the insecure nature of microwork weakens wage growth overall.

## Output: [Scenarios Toronto 2030](#)

### Workshop 2. Implications

This workshop was held on January 7, 2020. It was designed to take us into the future. The research team harvested the inputs from the December session to develop four 2030 microwork scenarios.

In this session, groups were assigned their scenario as a pre-read. They worked with the same groups as workshop 1. New participants were assigned across the tables.

The first part of the workshop was devoted to discussions about the implications for the workforce in 2030. The top 16 implications were voted on and eight were selected as the most significant and most surprising. Participants then reconvened in their groups to set out strategic perspectives based on two implications per group.

At the start of workshop 1, participants presented an overall negative view of microwork. However, as the discussions progressed, people's ideas about microwork gained complexity. Therefore, awareness grew into acceptance. The opportunity to consider how microwork could be used in beneficial ways opened up.

At the start of workshop 2, [Ana Matic](#) introduced her thesis, [Microwork: Theory, Models and Mechanics](#) for enabling impact through aggregate action. Ana also wrote the chapter, [Aggregate action, complexity, and microwork](#), exploring preferred microwork futures.

Output: [Implications of microwork futures](#)

## Phase 4. Foresight studio

The research team convened to analyze the workshop outputs and synthesize them into a set of strategic perspectives. First, we assembled the 42 discussion threads that came out of workshop 2. Then we categorized the inputs and developed a final set of five strategic perspectives on microwork in the GTA. It is our hope that program developers, policymakers and other stakeholders might consider these perspectives in their work.

Output: [Strategic perspectives on microwork futures](#)

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Resource: [Design research](#)

We used the [Design Research Techniques](#) online repository. It's an evolving resource with a range of techniques organized by the project lifecycle they best suit. The methods can be used with multiple stakeholders including potential users or audiences, partners or internal teams. [www.designresearchtechniques.com](http://www.designresearchtechniques.com).

Are you planning research?

The presentations, documents, and props we used for this project are documented in the [Microwork Project Toolkit](#).



# Phase 1: Microtasking signals sprint

We started the project by detecting microtasking signals of change, but first, we needed to establish a definition for microtasking. We worked with the view that microtasking is a subcategory of gig-working. Generally, the term “microtasking” is used to refer to people engaging in tasks on microwork platforms. These include Figure Eight and Amazon Mechanical Turk.

## Microtasking definition

Our working definition for the project is:

- Microtasking is not part of the standard employment relationship.
- The work involves taking on short tasks (i.e. 15 minutes to a few hours).
- A microtasker usually takes on a variety of different tasks from a variety of different firms/people.
- Microtasks are found and undertaken on a microwork platform accessed via the internet.

Microtasking is not just work that is small or different. We also focused on the kind of microwork that is crowdsourced or 'spliced' onto other ways of earning. We found lots of connections with AI and machine learning.

“ The explosion in microwork is indicative of a major shift in the economy and how people respond to their economic situations using the resources that are now available. It is crucial to have an organized response to this through research and responsible policy-making before it precipitates into a cultural shift that we may not have the tools to address.

– Haris Akhtar, University of Toronto Student

## The microtasking signals database

From September 19 to October 9, 2019, U of T Urban Political Geography students participated in a “signals sprint” to find microtasking references. They collectively analyzed 374 references related to microjobbing. Students analysed each reference as social, technological, economic, environmental, political or values, a **STEEP** framework. Students also considered the importance of each signal and provided a summary of why it is important.

The project would not have been possible without the incredible harvest of resources the students collected. Our appreciation also goes out to their professor, **Michelle Buckley**, for guiding them in this research and making it part of their coursework for the term.

“ Microtasking is everywhere online, you just need to realize what exactly it is!

– Noah Ramcharran, University of Toronto Student



The **2x2 Matrix** process chosen for this project begins with an organized search for, and collection of, evidence of change. Following a briefing presentation and class discussions, students followed their understanding of microtasking. We asked them to capture instances of actual change, called “signals”. Each student contributed eight signals based on their experience and research.

The microtasking research team wanted signals that ranged from strong to weak. Signals that challenged the core research team’s assumptions provided a richer environment for **foresight analysis**.

# The signals sprinters

“ Micro-tasking is the new way to make extra income.

– Dhanak Ohri, University of Toronto Student

Haris Akhtar, BA

Will Bromley, BA

Daniela Caneo

Valeria Gallo Montero, BSc – *Article:*

*Microtasking as a quick fix to ease the cash crunch*

Mei Hung, BA and MA

Kayona Karunakumar, Honours BA

Frankie Chi-Hin Leung, BSc

Neha Meher, BA

Dhanak Ohri, BA – *Article: Microwork’s*

*popularity among students*

Pravleen Parmar, BSc

Rachel Bonita Persaud , BA

Pravleen Parmar, BSc

Rachel Bonita Persaud , BA

Anisha Prasad, BESC.

Noah Ramcharran, BA

Daniel Ravindran

Zaineb Shahid, BA

Aliya Shivraj, BSc

Zainab Sidiq, BA

Herve Thuram, BA

James George Vlahos

Ali Zaheer

Xinrui Zhang

Richard Zhao



## Phase 2: Microwork trends to consider

Everyone notices trends in the world around them. Spring 2019's fashion colour was yellow. Meat-free options are on the rise. Part-time work is growing. Sometimes we base these on facts, but sometimes we just notice things happening. We apply cognitive bias to memory and to make sense of the world around us in the present. We also use it to consider the future, to plan, and to avoid risks.

Cognitive bias is a concept introduced by Amos Tversky, Dale Griffin, and Daniel Kahneman (Heuristics and Biases: *The Psychology of Intuitive Judgment*). In *Thinking, Fast and Slow*, Kahneman describes fast thinking, which is the kind of thinking we do when we are scanning for signals:

“As these links are formed and strengthened, the pattern of associated ideas comes to represent the structure of events in your life, and it determines your interpretation of the present as well as your expectations of the future.

– Daniel Kahneman, [Thinking, Fast and Slow](#)

Cognitive bias helps us to collect signals of change. The microtasking signals sprint is a window into the world of a third-year class of University of Toronto Scarborough Urban Political Geography students. The group is diverse in culture and academic orientation, while at the same time representing what a microtasking target group would look like. Many were seeking part-time work. Also, the group has a good representation of women, and everyone uses tech in their daily lives.

## Identifying the trends

The TWIG research team collected even more signals. Together we created a dataset of hundreds of signals. These are based on things that are actually happening right now. Signals are the beginning of the foresight journey. Specifically, we wanted to consider how microwork exists in our world today. Then, what we can learn by thinking about it in a future state.

Signals of change are the basis for microtasking trends. The team mapped over 400 signals to 12 microwork trends. The trends are what is happening now.

People familiar with microwork or workforce trends reviewed the trends. We asked roundtable participants to consider what is driving the trends. Then we listened for words that convey a direction such as “increasing,” “growing,” “stopping,” and “failing.”

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### Discovery: Trends deck

Explore the microwork trends with a group of people. Print the trends on card stock and cut along the lines to make a deck for each person. The template for the trends cards can be downloaded from the [microtasking toolkit](#).

# 12 microwork trends

## 1. AI's eating the work



Advances in fields like machine learning allow de-skilling or full automation of work. Formerly the tasks required human involvement. Microwork refers to these as “human intelligence tasks” or the acronym, “HIT”. AI is a significant feature of the Fourth Industrial Age. There is no doubt that it will be as disruptive as previous technological eras.

And likely, more. Although the trend has a negative orientation, AI is taking on mundane, monotonous, and dangerous tasks. New professions will emerge in the age of AI. For example, AI will beget jobs related to managing AI and developing code. HITs include activities that need a philosophical or values orientation.

### Subtrends

- Vast improvements and investment in AI technology let us automate judgements at scale.
- Higher-value tasks may be susceptible to breakdown into microwork.

Change drivers: **Intelligent advances** – **Built for profit** – **Uneven Growth** – **Policy Lag**

## 2. Everybody's hustling



For many people, working life as one job for life, much less one job at a time is no longer the norm. Many people are temping and freelancing. People juggle many roles, build side-hustles, and keep working longer in life. Income precarity and the need for multiple income streams is no one's idea of a good thing.

But there's also a concern that government interventions limit the opportunities to earn. The containers (work-life) blur. Income stagnates as people “do-more-with-less.” There's the sense that everybody is working and nobody is working.

Subtrends

- “Gigification” is actually a mega-trend that normalizes work outside the standard employment relationship.
- The side-hustle is a subtrend that brings the reality of wages shortfall together with a lifestyle vibe.
- Canadians are living (and also working) longer. A little extra cash or points isn’t the worst thing.

Change driver: [Social modernization](#)

## 3. T.O. grind



There’s consensus that Toronto residents face rising affordability challenges. Toronto has a global technology status. Yet, technology also widens the gap between knowledge workers and service-level workers. Grinding T.O. also acknowledges that everybody’s hustling. There’s still a pull-yourself-up-by-your-bootstraps vibe in the city.

Subtrends

- The dark side. There’s a rising affordability crisis for all but the most affluent. The sub-trend increases economic pressure on workers.
- Toronto’s risen to a global tech hotspot. The city’s AI emphasis position it to continue that leading role.

Change driver: [Uneven Growth](#)

## 4. Intimate labour



Microwork can get very personal. It commodifies small tasks that need human sensibilities. People sell access to their opinions, location and tastes. It also extends to befriending, crowdsourcing advice, and opinions. HITs give the automated services sentience.

In one case is a young woman who used an app that made it appear that she had a boyfriend. A microworker composed text messages sent at regular intervals. When she no longer needed to demonstrate that she was in a relationship, she kept the service going. She found the communication so reassuring that she felt she would miss it.

Increased privacy concerns balance this trend. People are less apt to share information without compelling reasons or adequate compensation. Litigious action also deters people from engaging in online intimacy.

Subtrends

- Polls and surveys are a subtrend. Most everyone loves to give their opinion on everything.
- The internet and social media support a sense of non-committal, easy intimacy that is transactional in nature.

Change drivers: [Uneven Growth](#) | [Social modernization](#)

## 5. Work as play



Work can mean very different things to different people. Completing an image-tagging task to unlock a cat video is casual work for casual income. In a city like Toronto, where rents are high, gamified microtasks can be fun for pocket change. When there is higher worker supply than work demand, microwork platforms and requestors set rates for play rather than pay.

Subtrends

- Microwork as casual work, casual income.
- Free stuff is always a compelling reason to spend time on tasks. Couponing nets out to be non-productive work when viewed in the context of wages.
- Microwork is ubiquitous: we're all already microworkers. Think tagging those images for fire hydrants!
- Students are smart and need money. This drives a trend toward virtualizing jobs such as tutoring.

Change driver: [Social modernization](#)

## 6. People as a service



Platforms make coordination with outside parties easier. Thus, more jobs can be outsourced, replacing permanent staff. Breaking down jobs into small projects and even smaller tasks has become commonplace. Some of this takes place in direct relationship with contractors. But the presence of platforms as intermediaries makes it easier to view people as a service.

The result is that there is more awareness of the gig economy and crowdsourcing. This might also shift consumer values and influence corporate practices. Decent work, fair pay, and other labour movements shed light on outsourcing, offshoring, and labour arbitrage. [Wagemark](#) is an exemplar.

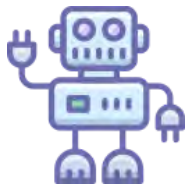
Wagemark is an international wage standard used by companies, non-profit organizations and government agencies to certify that the ratio between their highest and lowest earners is competitive and sustainable.

### Subtrends

- As microjobs get more specialized, they give rise to more specialized platforms.
- Companies are outsourcing for services that used to permanent staff hires.
- All work becomes gig, contract, or precarious.

Change drivers: [Collaborative Connections](#) | [Built for profit](#)

## 7. Robots are making jobs



AI development actually drives microwork demand. Microjobbing is the new labour and service economy work. But, it doesn't create a career path. There is a shortage of people who can fill skilled jobs related to AI.

Toronto's profile as a tech centre is also on the rise. This extends to Toronto as an education and training hub for new technology jobs. Although the training is often digitalized, developers and instructors are often local to Toronto.

Change drivers: [Intelligent advances](#) | [Uneven Growth](#)

## 8. Solidarity in seconds



Most microwork platforms don't offer forums or community chatroom for microjobbers. Microworkers self-organize. They use independent forums and other communal tactics. Attempts to advocate for better pay and conditions are gaining traction. Platforms and requesters hold power to bypass organized workers.

Furthermore, the current regulatory environment allows platforms to shut out workers with impunity. A basic income for microworkers involves coordination across all levels of government.

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Subtrends

- Microjobbing communities and online forums.
- Crowdworkers and unions are attempting to organize the sector to advance workers' rights.
- The push among activists to establish alternative platforms and digital economic organizations.

Change drivers: [Intelligent advances](#) | [Uneven Growth](#) | [Social modernization](#)

## 9. The microstate



Governments are being called on to develop microwork labour markets. But they are not sure how to regulate or operate in a non-standard employment environment. Interventions might include new policies, public projects or guaranteed income pilots. In Toronto, inclusive economy programs align with considerations that could help microworkers.

Subtrend

- Urban cowboy e-capitalism continues to bypass dysfunctional government policy-making.

Change drivers: [Collaborative Connections](#) | [Intelligent advances](#) | [Policy Lag](#)

## 10. Lifesaver



Many people who are shut out of standard employment turn to microwork. It can be the primary source of income for young workers, students, caregivers, people with disabilities, retirees, and newcomers. Unfortunately, the perceived “access” and “equality” of microwork can further disadvantage people who face barriers to employment. The lifesaver can trap them in low-paying work with no opportunities for advancement.



Subtrends

- Global crises are displacing human populations. This cuts them off from conventional work opportunities.
- Microwork platforms mean that global workforces are now available for hire by anyone.
- “Mom jobs” is a subtrend related to women caregivers. The marketing juice is “why not get online and do something productive?”
- Microwork as modern-day manufacturing jobs, where workers are paid based on production.

Change driver: [Policy Lag](#)

## 11. Microworking for good



People seek intrinsic benefits beyond their earnings. For one thing, Microwork offers a feeling of being your own boss. Sometimes, it is also positioned as a learning opportunity. Then there’s the sense of satisfaction of completing tasks that help other people. From tagging photos to translating languages, microwork can offer intrinsic rewards.

The trend could move in the other direction. As we spend more time in front of screens, it may be that people seek place-based opportunities. But, people who want to microtask will seek it out. For them, the gig economy is alright, they’re OK with the screen time, and they like the flexibility or diversity of work microjobbing offers.

Subtrends

- Using microtasking for research, by academics for research and survey recruitment.
- Canadians are working longer, and microtasking can fit with a mature lifestyle.
- The idea that participating in microtasks as a learning activity can help build memory and mental agility.
- The entrepreneurial mindset responds to the microwork vibe.

Change driver: [Social modernization](#)

## 12. Borderless work



Any of 3.5+ billion people already online can pick up microtasks. Microwork platforms represent a massive, borderless workforce available 24/7. Cell and internet access levels are projected to rise. Developments such as automated translation have also reduced collaborative barriers.

Also on the rise are issues and concerns connected to labour arbitrage and offshoring. Then, even greater precarity exists for microworkers with unreliable internet access.

### Subtrends

- Machine and machine-assisted translation tools continue to improve.
- Internet use continues to grow, with quality of connection also improving.

Change drivers: [Collaborative Connections](#) | [Intelligent advances](#) | [Built for profit](#) | [Uneven Growth](#) | [Policy Lag](#)



## Phase 3: What's driving microwork

During the December 2019 workshop, the groups discussed the drivers and chose two – built for profit + policy lag – as the most important and most uncertain. Then these were used to develop the scenarios for the second workshop.

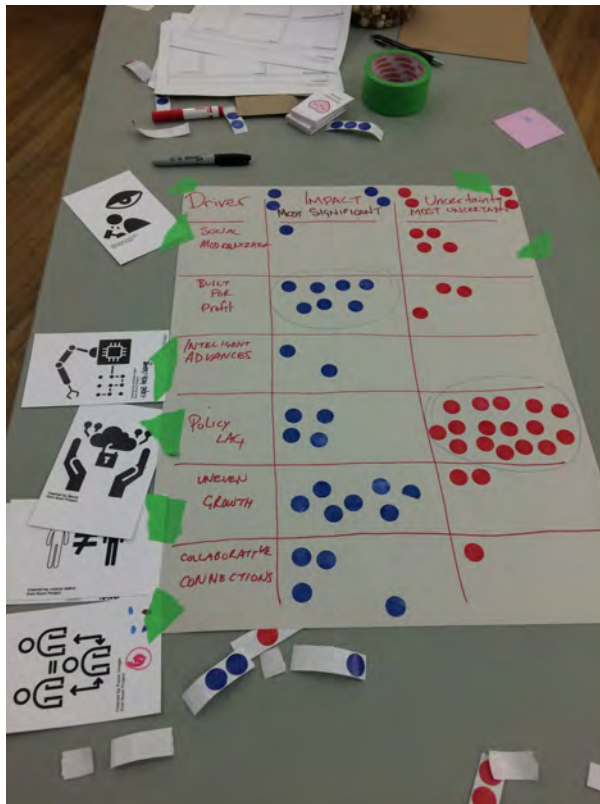
“Change is the process by which the future invades our lives.”  
 – Alvin Toffler, *Future Shock* (1970)

## Six changes driving microwork

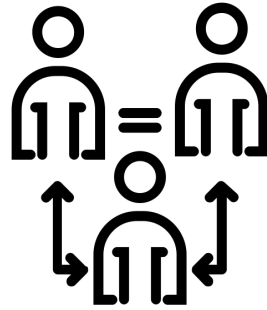
The research team identified what’s driving microwork by analyzing the signals and developing a set of **12 trends**. Then the trends were presented at two expert roundtables and in 1:1 interviews with stakeholders. From the feedback, the team identified six microwork drivers.

Participants received the drivers in advance of the first workshop. Not surprisingly, their initial response was frustration and a sense of powerlessness. Next, facilitators led discussions about all six drivers at the workshop. Through discussion, their outlook became more positive. Recognizing that change is fluid and directions can change, gives us more control over our futures.

The “Table talk” section reflects the group discussions held at the first microwork session. The group chose the drivers 5 & 6 – built for profit + policy lag – as the most significant and most uncertain. Then these were used to develop the scenarios for the second workshop.



After a robust discussion, participants presented the two drivers suggested by the group, and then voted individually. Voting was done on the basis of importance and uncertainty.



Created by Pravin Unagar  
from Noun Project

## 1. Collaborative connections

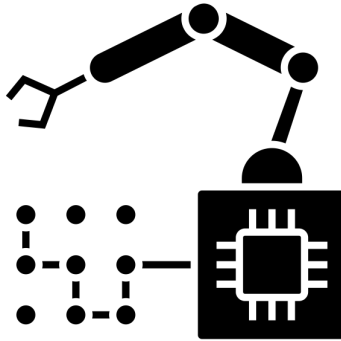
### Working across state and organizational borders keeps getting easier

Billions of people own devices that not long ago would have been supercomputers. They use tools like 5G and Skype to connect, Salesforce and G Suite to coordinate, and Upwork to hire. Working across state and organizational borders also keeps getting easier. It is possible to work with anyone, from anywhere — or break traditional jobs into subcontracted tasks. The result has reshaped everyday work. People spend their days on chat and teleconferences with a remote team of co-workers, freelancers and service providers.

See "Table talk" for all facilitators notes on the drivers and change.

“ My group looked at this driver differently. They viewed the notion of collaboration as a glue, bringing together their two most significant drivers, "policy lag and "unequal growth". Instead of looking at collaboration through the technical lens it represents, my group saw it as the only way for progress to be made. A perspective that came through strongly as we developed our scenario, *The social impact franchise*.

– Marco Campana, Group 3



Created by Srinivas Agra  
from Noun Project

## 2. Intelligent Advances

We're training computers to do human work, but cheaper and better.

Computer algorithms connect you with a ride, translate your news, and analyse your medical tests. Sensors, robotics and AR (augmented reality) are becoming part of our everyday lives. But these systems depend on “human intelligence tasks” (HITS). Microtaskers fulfil invisible but essential HITS around the clock and the globe. Their activities also “train” computers to take on ever more complex work. Toronto’s profile as a tech hub is bringing high-paying jobs such as data scientists. These are people who build and support the tech-based systems that are doing human work. Together, data scientists and microtaskers are training computers to do human work, but cheaper and better.

[See "Table talk" for all facilitators notes on the drivers and change.](#)

“ AI wasn't a hot topic of discussion – potentially because even the most technical people at our table were primarily business- or policy-side folks. That may have led to either a sense of lack of expertise (which would make it difficult to discuss) or possibly a shared inclination to see it as highly significant, but not necessarily all that mutable. That did lead us to spend some time talking about how inexorable the technical future really was. But the discussion didn't stay top-of-mind for the group relative to the other drivers. The feeling around the table seemed to be that while robots will probably arrive, the important thing is what we do with them. And that dimension seemed more connected with other drivers.

– Alastair Cheng, Group 2



Created by Luis Prado  
from Noun Project

### 3. Social modernization

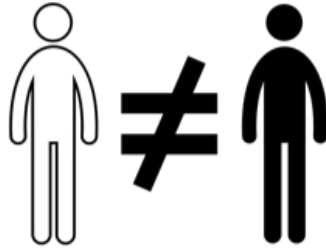
Alternate ways of living and earning are gaining social acceptance.

1950s ideas about gender, family, identity, and values are fading. Alternate ways of living and earning are gaining social acceptance. Furthermore, many Canadians seek a work and life balance, which is a highly individualized notion. Employers and microwork platforms promote entrepreneurship and flexibility and question the notion of who an employee is. The message of autonomy resonates with many. Yet for some, the notion of work and life balance, of being your own boss, doesn't quite live up to the promise. The reality is that the microtasking workforce is geographically scattered and demographically diverse. As a result, it is difficult for microworkers to influence pay or terms of work.

See "Table talk" for all facilitators notes on the drivers and change.

“ Our table selected this as one of the two drivers we submitted. One big argument in favour was its role as a distal and deep cause of other changes. Because it wasn't as obvious how the future might look culturally, those in favour also suggested, its effects could be wide-ranging and unexpected.

– Alastair Cheng, Group 2



Created by corpus delicti  
from Noun Project

## 4. Uneven growth

Toronto keeps booming, but not everyone benefits.

Job and population growth mean that Toronto is more diverse, younger, richer and bigger than any other region in Ontario. But Canada's wealthiest city is an unaffordable "hourglass." As elite workers thrive, Toronto's socioeconomic middle is shrinking. A recent study concludes that Toronto has the largest gap between rich and poor in Canada. Furthermore, income inequality disproportionately impacts people who are racialized. Toronto keeps booming, but not everyone benefits. A 2017 report by the [United Way and University of Toronto researchers](#) reveals that while "Toronto is fast becoming a world leader in innovation and an example of thriving multiculturalism" it's growing prosperity also results in "a widening gap between the city's richest and poorest residents".

See "Table talk" for all facilitators notes on the drivers and change.

“ The group was also very intrigued by this driver and noted that the uneven distribution of growth was a historical fact. They were interested in how specific groups were impacted more highly than others. Also, we talked about how growth might be redistributed to offer value in various ways so that the overall growth is more just and fair. They also expressed the importance of this driver. That ignoring could lead to a negative backlash from adversely affected groups.

– Ana Matic, Group 3







Created by TukTuk Design  
from Noun Project

## 5. Built for profit

Companies maximize profit by reducing costs.

Most businesses put efficiently maximizing profit over anything else. Companies maximize profit by reducing costs. One way to increase productivity and reduce costs is through automation. Outsourcing is another. Moving jobs to where the cost of doing business is lower can then increase profits. Companies also realize gains by taking advantage of labour's low cost and bargaining power in poorer countries. Furthermore, they can transfer capital costs to workers and bypass employment standards. On Mechanical Turk the median hourly wage is USD ~2 per hour, and only 4% of workers earn more than USD 7.25 per hour.

In 2012, Crowdflower (now Figure Eight) was sued over its labour practices. In 2015, CrowdFlower paid USD 585,507 to settle but the employment status of its workers was unanswered.

See ["Table talk"](#) for all facilitators notes on the drivers and change.

“ The group expressed a great deal of certainty around this driver. They viewed it as representing a set of forces that are more fundamental than the other drivers. This driver was seen to be effectively *driving the others*. The expectations about profit in corporations were that it is something that few companies could resist if they were to remain competitive. The group viewed the previous drivers (1 and 2) primarily in this context. Ultimately, the "collaborative connections" and "intelligent advances" would be driven by profit motives.

– Goran Matic, Group 4



Created by Becris  
from Noun Project

## 6. Regulatory lag

Technological shifts have outpaced government policies.

Microtasking is under the radar in Ontario, and so unregulated. Technological shifts have outpaced government policies. As a result, platforms and requesters press their advantages, creating a buyers' market. Left unregulated, the potential ramifications are broad. The most obvious consideration is adherence to provincial employment standards. The impact also extends to the corporate tax base. Without adequate resources, local prosperity and community safety slide downward. Furthermore, as the social safety net erodes, the need for stable jobs and decent pay rises.

See "Table talk" for all facilitators notes on the drivers and change.

“ The group expressed a great deal of certainty around this driver. They viewed it as representing a set of forces that are more fundamental than the other drivers. This driver was seen to be effectively driving the others. The expectations about profit in corporations were that it is something that few companies could resist if they were to remain competitive. The group viewed the previous drivers (1 and 2) primarily in this context. Ultimately, the "collaborative connections" and "intelligent advances" would be driven by profit motives.

– Goran Matic, Group 4

# Table talk: change drivers

The facilitators' notes on the discussion about drivers and change

## 1. Collaborative connections

Ana: Our group expressed that "collaborative connections" were an underutilized factor in current forms of microwork, and could potentially be an enabler for future scenarios. Especially pertinent were elements of collaboration that allowed microworkers to advance their collaborative skillset and capture or contribute their individual creativity. Mostly, our group felt that current formats disallowed true collaboration, and they were interested in it increasing it as a driver.

Alastair: This driver was effectively accepted as a given – therefore, important, but not particularly uncertain. So it wasn't a contender for our group's choice of two top drivers. However, there was bigger-picture discussion about the various ways that the combination of this driver and "build for-profit" [3] enable the disaggregation of task-level work from the bundles (i.e. "jobs") they've traditionally been delegated in. The observation was that this disaggregation potentially drives both efficiency and inequality.

Marco: My group looked at this driver differently. They viewed the notion of collaboration as a glue, bringing together their two most significant drivers, "policy lag and "unequal growth". Instead of looking at collaboration through the technical lens it represents, my group saw it as the only way for progress to be made. A perspective that came through strongly as we developed our scenario, The social impact franchise.

Goran: The group felt that this driver was important – although, not the one that was driving the changes. Instead, the group thought that this driver was more of an enabler of the fundamental underlying forces that are bringing about critical changes to the microwork landscape. As a facilitator, this discussion was both surprising and refreshing. The group expressed a shared belief that there were more fundamental forces (than technological enablement) that were more essential.

## 2. Intelligent advances

Ana: Our group was unified in their belief that "intelligent advances" are a strong possibility. Therefore we didn't discuss this driver extensively as there was a reasonably immediate consensus on this point. Notable was the idea that certain types of AI would be beneficial to some (and some types of markets), while disruptive to others (and other types of markets).

Alastair: AI wasn't a hot topic of discussion – potentially because even the most technical people at our table were primarily business- or policy-side folks. That may have led to either a sense of lack of expertise (which would make it difficult to discuss) or possibly a shared inclination to see it as highly significant, but not necessarily all that mutable. That did lead us to spend some time talking about how inexorable the technical future really was. But the discussion didn't stay top-of-mind for the group relative to the other drivers. The feeling around the table seemed to be that while robots will probably arrive, the important thing is what we do with them. And that dimension seemed more connected with other drivers.

Marco: AI was considered significant and certain, so the group didn't spend as much time on it. There was table consensus.

Goran: The group felt that this driver was more fundamental. The automation and AI were actually impacting peoples' jobs and livelihoods in a way that was aggregative and amplified. It was felt that this would make it necessary to create adoption strategies and active responses that are more pronounced over time. There was also some trepidation about the uncertainty of "intelligent advances". How exactly they might show up and manifest was noted but not discussed extensively.

### 3. Social modernization

Ana: The group was animated by this driver. We talked about the different ways of being and doing and what it might mean for "social modernization" over time. There was discussion about whether the changes are recurring and self-propagating. They were especially interested in recursive-pattern social shifts. The discussion extended to imagining normative changes to microworkers' lives. As microworkers become a larger group – and potentially even a majority – the group thought about shifts to values, perception about time, living habits (sleeping and eating), etc. We considered how this type of work might impact the family, technology, health, etc.

Alastair: Our table selected this as one of the two drivers we submitted. One big argument in favour was its role as a distal and deep cause of other changes. Because it wasn't as obvious how the future might look culturally, those in favour also suggested, its effects could be wide-ranging and unexpected.

Marco: Our group discussion centred on whether alternate ways of earning are real choices at all. Are they simply what many people have to resign themselves to? For example, the notion of the gig economy and its apparent lack of future work, career progression, and income security. We talked about whether "social modernization" as it related to microwork is a desire or a reality. Do people feel little control and that they must try to adapt to it?

Goran: The group felt that "social modernization" was in some way also impacted by the previous three drivers. People were seen as responding to the changes in their world and life environments. The underlying energy in this driver was seen as an attempt to situate oneself in this new work environment. To try to find a way to balance experience and social participation. The group expressed concern about positive outcomes given that the tensions being discussed were not easy ones to resolve.

## 4. Uneven Growth

Ana: The group was also very intrigued by this driver, and noted that the uneven distribution of growth was a historical fact. They were interested in how specific groups were impacted more highly than others. Also, we talked about how growth might be redistributed to offer value in various ways so that the overall growth is more just and fair. They also expressed the importance of this driver. That ignoring could lead to a negative backlash from adversely affected groups.

Alastair: "Uneven growth" was the other driver selected by our table. People gravitated towards it immediately, several expressing opinions along the lines that "something has to change," with growing inequality and unaffordability as likely to spark dramatic reforms or shifts. So it had appeal as another deep cause, one that potentially affected and motivated almost everything else we discussed.

Marco: This driver was considered significant, and there was generally a feeling that it is somewhat inevitable. But there was also a desire for change from the table. So there was interest in working on it to think about how it could be addressed.

Goran: The reflection on this driver was that it was more of an outcome than an active generating force. The group felt that the other drivers were effectively creating a change that was experienced as "uneven growth". The group agreed that it was best not to identify this particular driver as the critical uncertainty since it was more of a result of the interaction of the others.

## 5. Built for profit

Ana: Our group was divided on the "built for profit" driver. A large portion of our group felt that it might be impossible to change the direction of "business as usual". Yet, others were optimistic that it all had to change due to necessity. There was a recognition that new types of business models are emerging. Also, a feeling that large numbers of people are becoming change-making leaders (and therefore would spark even more change). The group felt strongly about this driver. They ultimately ended up changing each others' minds through dialogue. We settled on this being an ample space, full of possibility. That appealing to both do-gooders and 'the greedy' was the absolute best approach all around. By this, we were referring to models that allow for profit-driven ROI, yet also positive impact.

Alastair: "Built for profit" was a top selection. It triggered lively back-and-forth among table members. Some were optimistic about a perceived increase in public concern for corporate outcomes beyond profit, particularly in terms of a generational transition. Others were skeptical about the effects of social enterprise or cooperative-type efforts, given their relatively small prevalence.

Marco: There was consensus that this driver is significant but also certain. The for-profit model presents an ongoing problem for our table. It is viewed as contributing to income inequality; however, the general consensus was that "business as usual" was unlikely to change.

Goran: The group expressed a great deal of certainty around this driver. They viewed it as representing a set of forces that are more fundamental than the other drivers. This driver was seen to be effectively driving the others. The expectations about profit in corporations were that it is something that few companies could resist if they were to remain competitive. The group viewed the previous drivers (1 and 2) primarily in this context. Ultimately, the "collaborative connections" and "intelligent advances" would be driven by profit motives.

## 6. Regulatory lag

Ana: Our group was extremely engaged, knowledgeable and passionate about "regulatory lag". Some of our group members felt that policy could be doing a lot more to enable-allow-disallow certain types of action. They expressed a desire for the government to engage in a way that reflects current issues. Some people felt that policy lag is inevitable. There was discussion about how entrepreneurs and private corporations can move more quickly than the government. Because they are more nimble in their actions, they can act more immediately. We discussed the way these two approaches impact one another. Entrepreneurial ventures such as Uber have the potential to dis/en/able the status quo.

Marco: Similar to "unequal growth", this driver was viewed as significant. There was also a feeling that it is somewhat inevitable, but again, the group expressed a desire for change.

Alastair: There was quite a bit of initial interest in this driver from several people at the table, but others expressed a degree of exhaustion and ambivalence about discussion focused on regulatory regimes. The general sense was that while individual policies could certainly have dramatic effects, for good or ill, the fundamental question of whether and how government intervened in any technological area would depend on upstream factors. These were discussed as demographics, economics, institutional changes and culture.

Goran: The group felt that this particular driver was essential, and the other critical uncertainty. There was also some division about whether there is a policy lag. Some of the participants were aware of regulatory initiatives. Regardless, the group felt that this driver would significantly alter the microwork experience. Other drivers would show up differently based on policy developments. This extended to "built for profit" and the corporate motivations and mindset.



## Phase 4: Implications of microwork futures

Implications can future-proof your interventions, products, services, and experiences. In response to the microwork scenarios developed in our first workshop, we applied “What if?” questions to surface the implications.



## What if? The implications process

“ Science and fiction both begin with similar questions: What if? Why? How does it all work? But they focus on different areas of life on earth.

– Margaret Atwood

1. First, workshop participants read and discussed their scenarios.
2. In workshop two, participants placed themselves in Toronto in 2030.
3. Using their scenario, they discussed “What else might be happening here?”
4. Then they asked, “What if this were true?”

The group discussion that took place during the second microwork session covered eight implications, which are documented below.

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### Implication 1. Democratic reform

What if political priorities and movements connected to microwork spur on democratic reform?

In scenario 3: the social impact franchise, the government is lagging behind microwork. As a result, democratic reform is a top issue. Then, smaller political parties (micro-parties) would emerge. Movements such as decent work might emerge and gain traction. Once these movements gain traction, people will come together. Because they’ll want a proactive and responsive government.

The group discussed changing voting and elections systems. But in our scenario, there is frustration with the status quo. Workshop one participants all discussed the government and the fact that it’s lagging behind on microwork. Also, they agreed that [the decent work movement](#) would gain traction in the scenarios.

By 2030, the decent work movement could extend into politics and government. Currently, Toronto has a [Fair Wage Office](#) and Fair Wage Policy. Because of the Fair Wage Office, the city can’t do business with vendors who discriminate against workers. Also, initiatives like the Ranked Ballot Initiative of Toronto could gain ground. This initiative could extend to provincial and federal electoral reform.

Democratic reform arising from microwork futures was the most surprising implication.

Although microwork is non-standard employment many missed this implication. The group felt shifting from jobs to tasks will influence political priorities. Therefore new movements will emerge.

So parties addressing workforce issues connected to the fourth industrial revolution will likely win. They might also gain ground if they align with the Sustainable Development Goals (SDG). By 2030, SDG Goal 8 wants to provide full and productive employment and decent work for all.

One person cited [Estonia's e-government](#) as a model for smartphone democracy. Estonia provides 24/7 online access to 99% of its public services. In general, it's a model for e-government. Also discussed was Dave Meslin, who founded the Ranked Ballot Initiative of Toronto.

Group two considered this implication for strategic perspectives. Yet, they expressed a lot of uncertainty about how democratic reform might work. Although they believe that a "decent work caucus" is possible. More likely, parties would fold issues into their broader platform. So, one line of inquiry was about what kind of reform would catalyze micro-parties. [Although the Netherlands was cited](#) as a case in point. Despite no vote-share cutoff for party status, there are no parties that serve one class of worker.

Instead, group two's strategic conversation focused on political alignments, ideas, and institutions.

Generated by: The social impact franchise 2030 (Scenario 3)

Drivers: Government is behind + profit before purpose

Principal researcher: Marco Campana

Round 2: Alastair Cheng

Ranking (importance + surprise): 6+17=23

## Implication 2. Tax collection

### What if microwork transforms the tax system?

In scenario 2 (profitably public), microwork is commonplace. So the group's main microwork futures question was the following: "how is microwork income taxed?" In voting, this implication ranked the most important of all.

One of the issues grappled with throughout the project is delocalization. Microwork requesters are likely in a different country from the microworker. This matters. It matters because we have a long-established model. The government collects revenue for social welfare via taxes or employer contributions. The group could imagine a world where taxation has adapted to borderless work. But, they agreed that it's a radical remaking of the current model.

The group contended that microwork currently exists on the fringes of the tax system. The group operated under the assumption that people might not declare microwork income. Although this was not judgement. People acknowledged it that usually a small amount or they were compensated in “points.”

Points compensation is difficult for workers to assess and the government to track. Tax assessment is a lot more difficult when points or other benefits are involved. Because it's a bartering economy that operates in the margins. Although barter transactions are within the purview of Canada's Income Tax Act, there are no systems available for assessing barterers.

### **Cryptocurrencies, such as bitcoin, could also be an important role in compensation.**

This further confounds the issue. The Canada Revenue Agency treats cryptocurrency as a commodity. So, it's not employment income (T4 or T4A). It is business income or a capital gain.

Microwork platforms have the power to shift profits to low-tax jurisdictions. This could trigger international tax competitions for platforms. Through uneven enforcement, some participants thought that government subsidizes microwork platforms. Furthermore, requesters have an outsourcing mindset. So they do not feel responsible for contributions or reporting.

The Mowat Centre report, [Working Without a Net](#), explores the issue of taxation in detail. Across microwork actors, these concerns reveal an underlying set of tensions.

### **Ask yourself: Who's the boss?**

Although a great Uber driver may make you feel like you are the boss, do you view yourself as their employer?

There are potential problems on all sides. Everyone from the requester and platform to the worker and consumer is affected by this. Because more people will be operating beyond government jurisdiction. Then, tax-free zones will be commonplace. As we automate back-office systems, taxation inefficiencies will abound.

### **Participants also expressed concern about efficient taxation.**

Taxation raised concerns because it might place the reporting burden on microworkers, which creates an opportunity. According to the Canada Revenue Agency, digitization barriers are usually psychological and emotional. Although microworkers could speed things along. By helping citizens navigate tools via video or chat, they would help slower adopters. Then there would be no income tax returns. As one participant noted, it's already happening in Finland.

The next round for this implication went to Group four. Their scenario was one where tax collection mechanisms had adapted. This opened the black box on microworking. Yet, they acknowledged that policy formulation is challenging. Especially since **the government does not have a full end-to-end view of microworkers**.

The group discussed the challenges of formulating effective tax policy. They also expressed concern that microworkers are vulnerable. Two needs emerged from the discussion about policy and precarity. First, the need for more transparency. E.G: a centralized microworker registry. Second, they identified the need for incentives, which drive information collection. For instance, this could be portable health benefits.

The group also anticipated changes to tax collection approaches. They agreed that we need more flexible strategies for assessing tax responsibility. The group considered microwork factors such as income levels and platformization.

Drivers: Government is proactive + purpose-driven profit

*Generated by: Profitably public (Scenario 2)*

Principal researcher: Alastair Cheng

Round 2: Goran Matic

Ranking (importance + surprise): 11+10=21

## Implication 3. Wicked problems

### What if microwork helps solve food systems issues?

Food systems were a topic of discussion that came from scenario 2, profitably public. Participants with farming experience gave this extra prominence. Then a question emerged: “could microwork change world food production practices and pricing structures?”

In fact, it gained traction and was voted the most important and surprising. People felt that it could be a case study of how microwork might offer solutions to wicked problems. Ana Matic’s talk on aggregated action and microwork was a source of inspiration.

The group’s discussion in workshop one included microwork in Global South countries. This informed Alyx Lee’s persona, which includes elements of food tech. Besides micro-farming, Alyx helps farmers in the Global South by micro-consulting.

The group agreed that the trend towards different modes of agriculture is necessary. For example, large-scale insect farming. Although it’s not microwork-specific, eating bugs for dinner suggests a radical menu transformation.

Bugs aside, microworkers eat at home far more often than onsite workers. The group imagined community kitchen clusters, more food delivery, and other food concepts.

The group also felt that microwork-related food redistribution could help people in Toronto. Also, the availability of **microwork as supplemental income** could diversify micro-farmer incomes. A participant suggested that micro-nutritionist consults could improve health outcomes.

### Overall, group one placed a strategic focus on lifestyle.

They saw the increase in delivery services as evidence of how fast lifestyles change. Microworkers are also likely to create a demand for new types of food. To meet the demand, there will be new (undiscovered) types of microwork in the food industry.

Participants saw continued growth in food-delivery and quick-and-localized everything. This includes growing bio-foods or cultured meat production. These ideas extended to localized cooperatives and distributed micro-farms.

### Experience offerings extend to tracking the origin of each specific piece of food.

With more transparency, people will become more aware. Microwork could offer ways to correct food problems throughout the supply chain.

Additionally, the group discussed the impact on the processes behind food systems. They believe that labour market intelligence could alter the way we value time.

Also, the group identified market opportunities for microwork; managing, distributing, building, and growing food. They also considered how mechatronics could reduce food waste.

Participants visited the idea of water-waste. They considered the waste by-product of microwork technologies (e.g., server farms). This triggered the following question: "what if purpose-driven profit businesses also tackled our climate?"

The group saw that a non-standard workday (that is, not 9-5) would change the foodservice industry. Their emphasis on preparing for changes generated strategic perspectives on education and training.

Generated by: Profitably public (Scenario 2)

Drivers: Government is proactive + purpose-driven profit

Principal researcher: Alastair Cheng

Round 2: Ana Matic

Ranking (importance + surprise): 6+9=15

## Implication 4. Upskilling

### What if microwork disrupts education and training?

Scenario one (purpose-aimed conglomerates) tackles microwork issues related to training. The Skills Packs concept is woven throughout the scenario. This is a small task approach to training, offering upgrades-as-you-go.

Participants liked the idea of customizable, training options integrated with microworking. They acknowledged that AI can already learn how you learn. So why not offer up bite-sized micro-training over morning coffee? Human micro-teachers could provide five-minute interactive sessions.

The shift to micro-education renders learning as a commodity rather than a product or service. Tiny segments offered one at a time, and even better, gamified. This raised the question: “would formal education lag behind micro-forms of training?” With the quickening pace of micro-education, traditional education could face obsolescence.

Group two expanded on these considerations to generate strategic perspectives. Participants thought this would disrupt education. Broader courses of study would give way to focused snippets. Participants assumed that algorithms would match learning to a specific task. In fact, most of the matching would take place on the microwork platform.

Generated by: Purpose-aimed conglomerates (Scenario 1)

Drivers: Government is behind + purpose-driven profit

Principal researcher: Ana Matic

Round 2: Alastair Cheng

Ranking (importance + surprise): 5+3=8

## Implication 5. Creativity

### What if creativity is part of microwork?

The story of Wangari Maathai and the Green Belt Movement sparked hope. Scenario one (Purpose-aimed conglomerates) started a discussion about creativity, and ways to include it in microwork. When put to a vote it got a high rating for being surprising.

De-introducing boredom to elevate microwork had enormous potential. Participants agreed creativity leads to purpose, sensemaking and (self) identity. And creative life is possible. Generations of artists and other creatives have known only non-standard employment agreements. Union agreements protect artists, i.e., [EQUITY](#), [ACTRA](#), and [Union des artistes](#).

Then, participants generated ideas about collectives. They discussed how shifts in power could help creativity flourish. To do this, feedback loops would need to go beyond rankings. New power structures could reset the dynamics of requesters and microworkers. Reflection and introspection become bona fide tasks. Participants believed in this competitive advantage and thought it was a compelling case for support. But they were unsure how the current system would reframe the rules.

Finally, the group discussed the opportunity for new types of workers. People add value to creative approaches that expand an organization's experience offering.

One idea was that by analyzing current data, we could track instances of creativity. Case in point: platforms are bringing together singers and musicians via their phone. A popular example is Smule, a popular music app that brings people together to sing.

Drivers: Government is behind + purpose-driven profit

Principal researcher: Ana Matic

Round 2: Ana Matic

Ranking (importance + surprise): 3+5=8

“ We hold these truths to be self-evident; All people are born creative; Endowed by our Creator with the inalienable right and responsibility to express our creativity for the sake of ourselves and our world.  
– Barbara Marx Hubbard, futurist

## Implication 6. The experience economy

What if the experience economy raises the profile of microwork?

Scenario 4 (Corporate cooperativism) features mega-corporations and AI. The group believed that humans could become “more human,” and the demand for experience offerings would increase. All of the above are experiences best fulfilled by microworkers.

Then, the group discussed an interesting phenomenon. People prefer automated services. There are situations where people don't add value. E.G: a check-out process in grocery stores. One participant had not dealt with a cashier in over a year and preferred automated check-out.

A health study of mature adults discussed the preference for dealing with AI and automation-based technologies. Then the group discussed issues related to stigma and privacy, which they considered the most likely contributor to this preference. Yet efficiency fatigue may set in when AI is running the shop. The experience-based offer differentiates companies.

Therefore, including wellness-microworkers could add experience to product decision-making in real-time. Because microworkers could explain alternative options. They could also set up delivery or pick-up options for out-of-stock items. Customers might prefer automated check-outs but value a quick in-person interaction. Google can help, but a person can empathize.

The group expressed concern for the loss of entry-level jobs such as cashier. There is merit in proposing tasks where human participation adds value. Because microworkers could enhance, complement, or even mask, efficiency.

Generated by: Corporate cooperativism (Scenario 4)

Drivers: Government is proactive + profit before purpose

Principal researcher: Goran Matic

Round 2: Goran Matic

Ranking (importance + surprise): 4+4=8

## Implication 7. Learning to microwork

### What if educational institutions more intentionally prepare people for microwork?

Post-secondary institutions focus on knowledge, but they're expensive and take a lot of time. In scenario 3 (the social impact franchise), learning syncs to needs in real-time. The scenario offers ways to offer training in non-standard employment future. This ranked as important during voting, but not at all surprising.

In fact, a participant summarized the way employment programs work:

- Businesses have long-standing relationships with education and training partners.
- This includes both educational institutions and not-for-profit service providers.
- Corporations support the training and skills development they define as necessary.
- Partners funnel workers to employers, based on employer-specific and identified needs.

Micro-learning and micro-upskilling could upend the system. In scenario 3, the government will maintain an outdated system for workforce training. Furthermore, the group advocated for flexible models for educating children and adolescents (K-12).

This will prepare young people for a future where non-standard work is the norm. However, there's already a lot of traction. Educators recognize the need to support attributes such as adaptability, and resilience. Skills acquisition and "learning how to learn" are necessary for this microwork future.



The group discussed the increasing emphasis on efficiency. This is partly to do with content. But training will become easier to develop and provide at scale. Learner incentives also merit attention. Especially if corporations lead the workforce training agenda. With fewer intermediating institutions, more people could get relevant credentials.

The group also cautioned against the narrowing of education to fit workforce needs. Long-term workforce planning requires systems support. Narrow training could also reduce the portability of a worker's skills. The system fails people if they are only learning how to use a proprietary interface.

Generated by: The social impact franchise 2030 (Scenario 3)

Drivers: Government is behind + profit before purpose

Principal researcher: Marco Campana

Round 2: Marco Campana

Ranking (importance + surprise):  $8+0=8$

## Implication 8. Automation

### What if microwork shapes AI development?

In scenario 2 (profitably public), reforms take personal data out of private hands. First, the group discussed data, a key part of the microwork futures conversation. Then acknowledged that it's one of the three pillars of AI. The other two are processing power and algorithmic capacity. When we voted, this was the weakest implication of all eight top implications.

The group questioned whether the microwork frontier keeps moving. If AI gets good enough to capture data without human intervention, microwork could become obsolete. Yet, participants acknowledged an inextricable connection between automation and microwork.

### Which is it?

Microwork needs AI to work, and AI is a component of microwork.

The bifurcation of the digital labour market is societal. We view microwork as "disposable." Yet talent is "invaluable." This extends to how we talk about work. While we manage talent, we rate tasks. We rate microworkers, along with Uber drivers and Airbnb hosts.

So, if microwork is taskification, is AI the talent or a super-microworker? "Managing AI" is what we say. Or is AI the slave? Note that "slave" is a word that's used in computing. Technology terms apply to microworkers and values-based statements apply to technology.

Overall, the group's microwork futures discussion centred on data, taskification, and evaluation. So there are pitfalls with evaluation. Optimizing for short-term task clearance is problematic. The group felt that less tangible indicators fail the institution and the microworker.

It could also limit the potential for computing. One participant noted that extreme taskification could help AI perform management functions. So they viewed this as a technology opportunity.

When we encounter angst about how AI is "taking over" we base it on the idea that AI is shaping the way we live our lives. But microwork is a human (intelligence) task. So, the general consensus is that it's up to humans to shape AI development.

Generated by: Profitably public (Scenario 2)

Drivers: Government is proactive + purpose-driven profit

Principal researcher: Alastair Cheng

Round 2: Marco Campana

Ranking (importance + surprise): 6+1=7

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# Strategic perspectives

Strategic perspectives are ways to think about the future. They are the final output of the foresight method used for this project and are included in the e-book. The project surfaced five areas to consider: artificial intelligence, education and training, livelihoods and wellbeing, and platforms. See [Chapter 4](#).

# Roundtables and workshops

Thanks to the people who provided their time, experience, expertise, and insights to the microtasking project. In addition to the contributors listed below, we also acknowledge the many people involved in one-to-one consultations and the [UTSC signals sprinters](#).

## Roundtables

Anne Jamieson, Senior Manager, Toronto Enterprise Fund, United Way of Greater Toronto  
 Biljana Zuvela, Manager, Research, Public Policy and Evaluation, United Way of Greater Toronto  
 Han Tran, Director, Bridging Services, ACCES Employment  
 Jen Flexman, Director, Partnerships and Access, Babylon Health (Board member, TWIG)  
 Jesse Hirsh, President, Metaviews Media Management  
 Jo-Anne Liburd, Communications Consultant (Chair, Board of Directors, TWIG)  
 Kate Kudelka, Senior Project Officer, Futures of Income, Pay & Taxation, Canada Revenue Agency  
 Mahjabeen Mamoon, Lead Res  
 Susan Brown, Senior Policy Advisor, Economic Development and Culture, City of Toronto  
 Tinashe Mafukidze, Executive Director, Toronto Workforce Innovation Group  
 Wendy Cukier, Professor, Entrepreneurship and Strategy, Ted Rogers School of Management, Ryerson University

Jenn Chan, Consultant, North York Community House  
 Jonquil Eyre, Consultant  
 Jordann Thirgood, Senior Policy & Research Officer, City of Toronto  
 Judy Doidge, Director, Partnerships, Social Capital Partners  
 Julian Posada, PhD Student, University of Toronto  
 Julie Witt, Integrated Learning Experience Coordinator, University of Toronto Scarborough  
 Julyata Mekonnen, Community Access Coordinator, The Neighbourhood Group  
 Kate Kudelka, Senior Project Office, Futures of Income, Pay & Taxation, Canada Revenue Agency  
 Mahjabeen Mamoon, Lead Research Analyst, Toronto Workforce Innovation Group  
 Mazher Jaffery, Consultant  
 Michael Marville, Business Development & Strategic Relationships, Progress Career Planning Institute  
 Michi Komori, Consultant  
 Nisa Malli, Senior Policy Analyst, Brookfield Institute for Innovation + Entrepreneurship  
 Peter Stoyko, Chief Social Scientist & Information Designer, Elanica  
 Rosemary Richings, Rosemary Richings Content Creation & Strategy  
 Rowena Power, Director, Online Services, ACCESS Employment  
 Saddaf Syed, Integrated Learning Experience Coordinator, University of Toronto Scarborough  
 Stephanie Kwan, Innovation Analyst  
 Stephanie Mohamed, Victoria Park Hub  
 Sukanta Goswami  
 Susan Brown, Senior Policy Advisor, Economic Development and Culture, City of Toronto  
 Tinashe Mafukidze, Executive Director, Toronto Workforce Innovation Group  
 Valeria Gallo Montero, Undergraduate Student, University of Toronto  
 Yasmeen Awadh, Gig worker

## Workshops

Abdul Mawlawi, Researcher, North York Community House  
 Adriana Beemans, Director, Inclusive Local Economies Program, Metcalf Foundation  
 Alison Darcel  
 Ann Holmes, Principal Consultant, Ann Holmes & Associates  
 Azhda Mehrpoor, Researcher, North York Community House  
 Caralyn Quan, Researcher, North York Community House  
 Darcy MacCallum, Director of Family & Wellness, The Neighbourhood Organization  
 Dhanak Ohri, Undergraduate Student, University of Toronto  
 Diane Dyson, Director, Research & Public Policy, The Neighbourhood Group  
 Eliana Trinaistic, Social Impact Manager, MCIS Language Solutions  
 Emile Baril, York University  
 Geordie McRuer, Founding Consultant, Bastet Strategy  
 Gina Lihou, Youth Employment Advisor/Facilitator, St. Stephen's Community House  
 Graham Westwood, CEO, Smashblock  
 Han Phu, International Business Development  
 Han Tran, Director, Bridging Services, ACCES Employment

## Workshop Facilitators

Alastair Cheng  
 Ana Matic  
 Goran Matic  
 Marco Campana  
**Leads**  
 Cheryl May  
 Maggie Greyson



online

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This resource is a print version of the content on the website.  
Additional resources are available online.

[Microtasking project toolkit](#)

[TWIG's microwork library](#)



# MICROTASKING

