

What Canadians Think About Artificial Intelligence and Implications for Canadian Businesses

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Executive Summary

Artificial intelligence has reached a turning point. Every day, there are new advancements in AI, new ways for companies to use AI, new assessments of threats and opportunities of AI. As more and more businesses gear up to adopt AI technologies, do they truly understand how consumers perceive AI and what they expect from it? How can brands apply these insights to solve their tough business challenges? Given consumer perceptions, how can marketers influence innovation and drive ethical standards around AI technology?

To understand how Canadians perceive AI, including what they think, feel, and do, we conducted a survey in August 2017 with 1,001 people representing the general adult (18+) population of Canada.

As you will soon learn, Canadians anticipate the advent of the AI economy with wonderment, but also with concern. This paper provides important insights and lessons into how government, businesses, and marketers can work to alleviate the trust issues and build a bridge to the future where AI is a positive, trusted, and valuable component of everyday products and services.

Canadians have high expectations of AI

Like much of the world, the Canadian public has not escaped the AI fervor. In fact, AI has become part of our social discourse with 52% of Canadians saying they have heard news or participated in conversations about artificial intelligence in the past year. Though gender differences suggest that men are more attuned to this AI news than women (63% for men vs. 42% for women), there are no age differences as all generations of adult Canadians reported similar exposure to the topic.

Given this level of awareness, it should not come as a surprise that expectations of AI are also high. Half of Canadians (49%) think they use or will use AI-enhanced devices and tools in their personal life in the next 5 years. Expectations are even higher among Millennials (currently aged 18 to 34), of whom 58% already use or plan to use AI-enhanced devices in their personal life in the next 5 years.

A significant percentage of Canadians (61%) think “AI will completely change the way we live and work”. On the other hand, only 23% think “AI has nothing to do with the way I live and work and is not likely to affect me in the future”. Except for a small minority, Canadians are clearly listening for and anticipating the effects that AI will have upon their daily lives.

AI understanding is surprisingly strong

Do the media over-hype expectations for AI? Do Canadians genuinely understand what artificial intelligence is, or what it can and cannot do?

When asked, 45% of Canadians reported that they understand current levels of AI developments “very well or somewhat well”. More specifically, men reported higher comprehension levels than women (55% vs. 35%), as did Millennials (aged 18 to 34) in comparison to Baby Boomers/Silent Generation (aged 50 to 64) (57% vs. 37%) (see Figure 1).

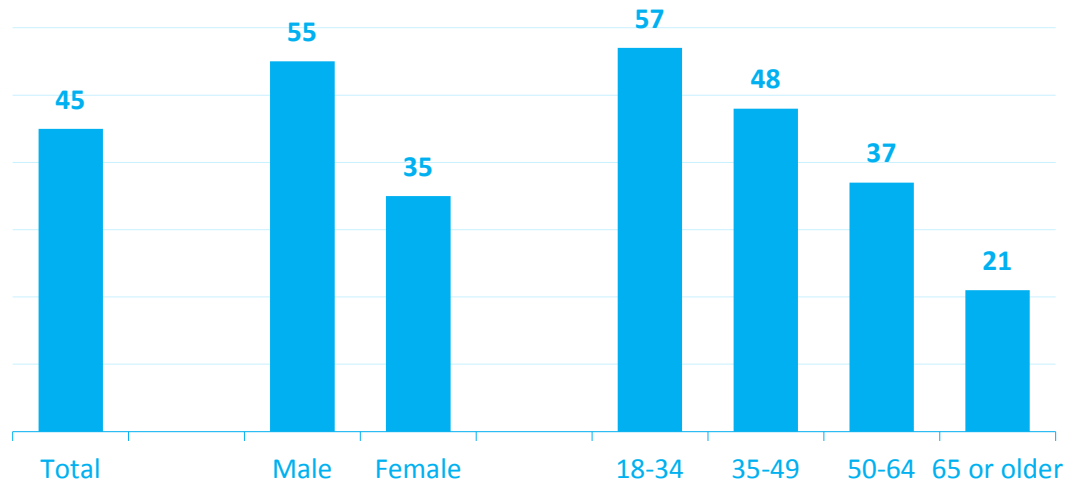


Figure 1. Understanding of current level of AI development (very/somewhat well) %
Q: How well do you understand the current level of Artificial Intelligence development?

Canadians **understand** and **anticipate** AI capabilities

It is, of course, one thing to say you understand, and a completely different thing to prove you understand. To test this theory, we offered participants a series of potential AI capabilities to decipher their true comprehension of AI, and Canadians passed the test.

The majority of participants were able to identify the most common uses of AI, e.g., recognize speech (72%) or translate languages (68%). And, they rejected the (current) unrealistic applications, e.g., make moral choices (7%) or read people's minds (5%) (see Figure 2).

A small minority (15%) think that AI has already surpassed human intelligence, while half (51%), similar to the experts in the field, think that AI will catch up to humans in 10 to 50 years.

Finally, when asked what artificial intelligence is, a majority (55%) correctly identified AI as "self-learning algorithms designed to do a specific task". It is alarming, however, that 42% incorrectly indicated AI is "a self-aware computer program."

WHAT CANADIANS THINK OF AI

While this understanding of AI remains mainly non-technical (only 14% had even heard the terms "machine learning" or "deep learning"), it does point to high levels of awareness and anticipation among Canadians.

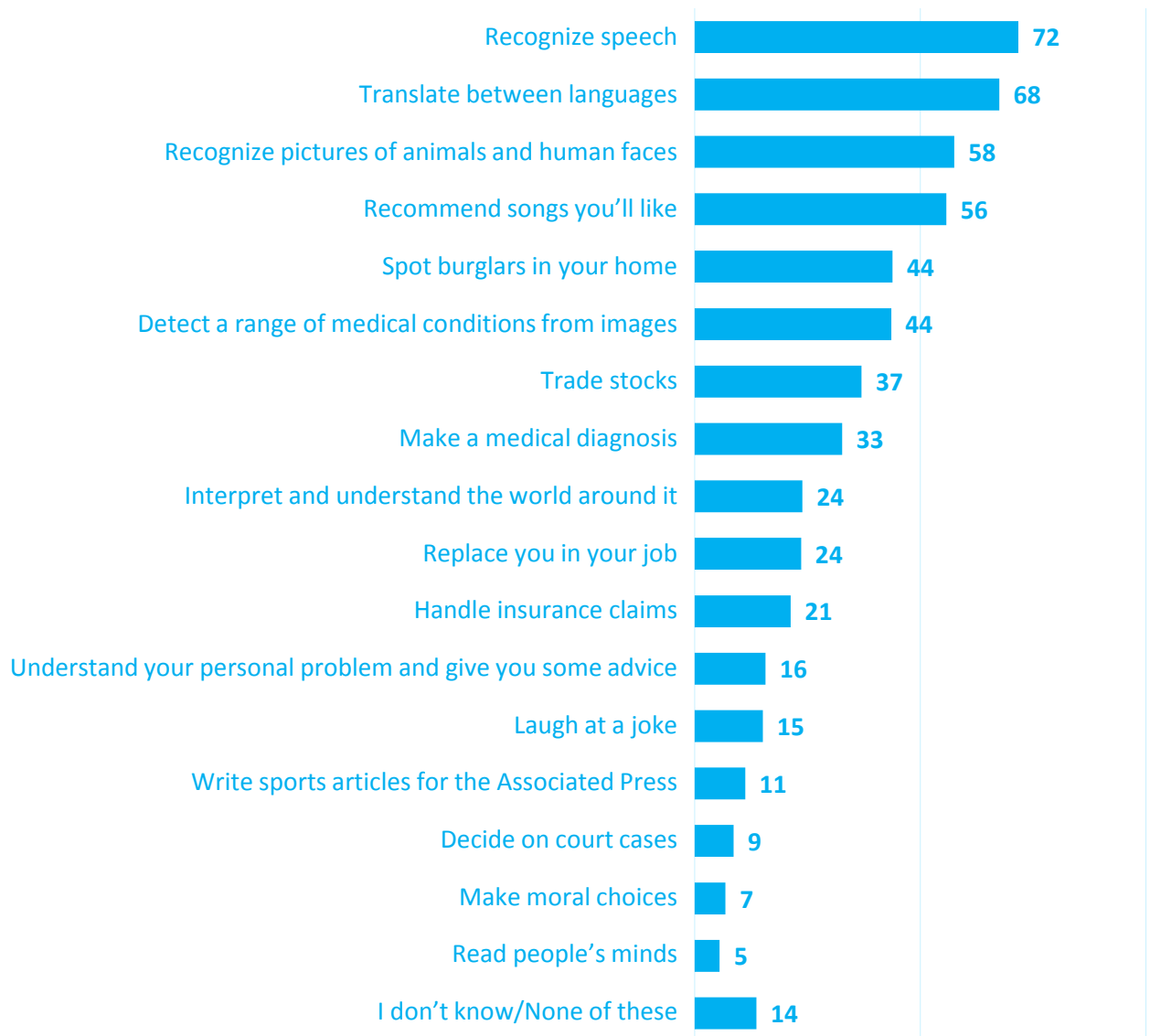


Figure 2. Understanding of current level of AI abilities, % | **Q:** To the best of your knowledge, at its current state of development, which of the following things can Artificial Intelligence do?

Women and men comprehend AI equally

As we saw earlier, men reported much higher levels of understanding Artificial Intelligence than did women (55% of men vs 35% of women said they understand it very/somewhat well). Digging deeper into the topic, the data showed that while women report lower levels of understanding, they actually have the same level of comprehension - a very real example of the Think versus Do premise.

When offered a series of potential AI applications, women correctly identified the capabilities of current AI technologies with the same degree of accuracy as did men - with one exception. Men were more likely than women to say that AI can trade stocks (43% vs. 31%).

In terms of defining AI, women were as likely as men to think that AI is “self-learning algorithms designed to do a specific task” (54% of women vs. 56% of men), but less likely to think that AI is a “self-aware computer program” (38% of women vs. 46% of men). Whether men over-estimate their level of understanding or women under-estimate theirs, the answer to that question is yet to be resolved.

Canadians feel both wonderment and concern about AI

Given relatively (and unexpectedly) high levels of comprehension of AI technology, it should come as no surprise that Canadians do not fear AI.

From a set of positive, neutral, and negative emotions, participants were asked to select all of the emotions that reflected their immediate reactions towards the words “Artificial intelligence.” Feelings of curiosity were selected by 71% of participants (see Figure 3). Positive feelings were chosen by about half of participants (47%), including 24% who chose anticipation and 21% who chose excitement. On the other hand, about 40% of participants chose negative feelings, including 34% who chose concern and 18% who chose fear/anxiety.

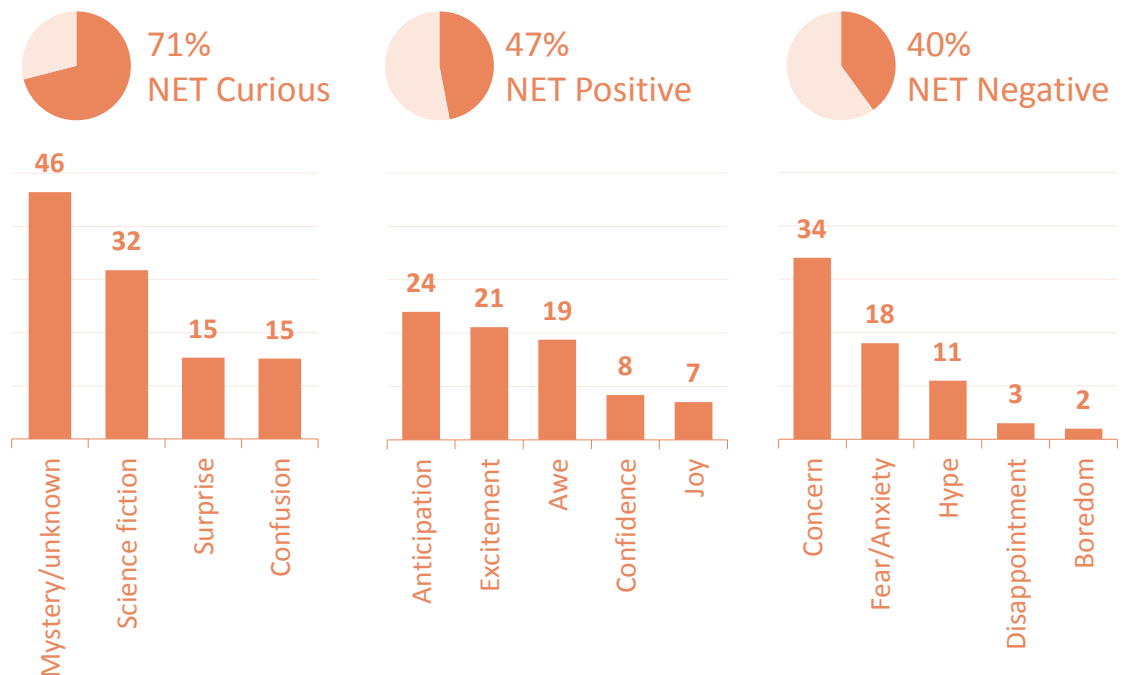


Figure 3. Immediate reaction to Artificial Intelligence, % | **Q:** And more specifically, which of the following words and phrases describe your immediate reaction when you hear the words 'Artificial Intelligence'?

Though fear and anxiety were included in this motley collection of feelings, glaring negative emotions (e.g., fear) were in the minority. The most common reactions - mystery, science fiction, anticipation, and excitement - coalesce to create an overriding sense of wonderment with a side helping of concern.

With those feelings of wonderment and the lack of fear, it is interesting that 77% of Canadians are ready to use a personal AI assistant. In fact, Canadians are keen for an assistant to have human characteristics such as a sense of humour (71%), a name (68%), high ethical standards (68%), and values and worldviews that match their own (62%). In essence, they are keen for an AI assistant that can engage with them on a human, emotional level.

Job security and privacy are the top two worries

When asked about potential negative outcomes of AI over their lifetime, a large majority of participants worried about decreasing levels of privacy (75%) and increasing levels of job loss (72%) (see Figure 4). These two negative effects generated the largest gender differences among all of the options. Specifically, women were more likely than men, by as much as nine percentage points, to single out these worries. There were, however, no age differences.

HOW CANADIANS FEEL ABOUT AI



Figure 4. Potential negative effects of AI | **Q:** *Thinking about all potential negative effects Artificial Intelligence can have, how likely are the following scenarios to happen during your lifetime?*

Societal concerns do not translate to personal concerns

Delving deeper into these two concerns, job security presents a paradox. A large majority of people worry that AI will put people out of work (72%) but, at the same time, only 14% believed that they themselves might lose their job due to AI in the next five years (plus 3% who said that they had already lost their job to AI). Canadians know that AI will have major effects on employment, but they might not be ready to acknowledge its impact on their own employment.

This feeling of personal job security may be partly due to the fact that 49% of Canadians believe AI technologies will lead to “increased employment through a new ‘knowledge’ industry” and 54% expect AI to result in “increasing productivity and overall country’s wealth”. In other words, Canadians know that AI will have major impacts on employment but they feel that, in the end, those impacts will be positive.

When it comes to personal security in relation to AI, about a third of people admitted to having concerns. Specifically, about 37% of participants feel annoyed that AI technology “collects too much information” about them. The same proportion (37%) worries that “AI in my phone (e.g., Siri, Google Assistant) constantly listens to my conversations” and 22% feel concerned “about machines/artificial intelligence uncovering my deepest secrets”. Canadians may have resolved concerns about their own employment prospects but they have yet to resolve concerns about their own privacy.

Canadians are ready to use AI technologies in their personal life

Canadians reported a rather high level of comfort with using AI technologies for various managerial aspects of their lives. They’re quite content to use AI when it comes to scheduling and bookings (70%), recommendations for shopping (59%), and home utilities management (73%).

WHAT CANADIANS DO WITH AI

However, comfort levels decrease in areas that directly affect their personal lives and well-being (see Figure 5). In fact, the tasks that generated the lowest comfort levels were also the tasks that generated the largest differences of opinion between men and women. Participants were least comfortable with using AI to diagnosis medical issues without human involvement (50% for men vs. 37% for women), drive vehicles (45% for men vs. 33% for women), and interact with children (42% for men vs. 35% for women). Essentially, people are happy to use AI to deal with things, but when it comes to the personal health and safety of “me and my loved ones”, people aren’t yet convinced.

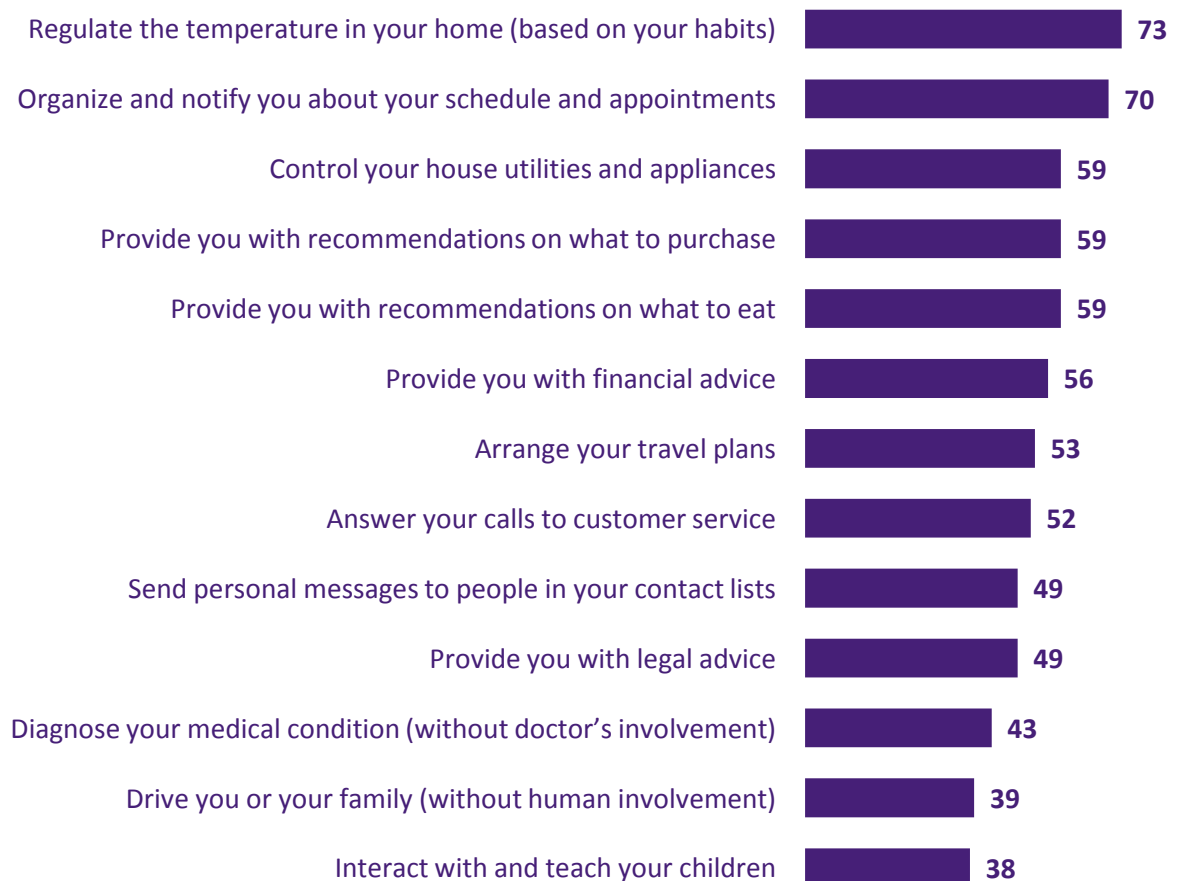


Figure 5. Comfort level with AI in various areas of life, (somewhat/very comfortable) %
Q: *How comfortable would you feel if an AI would...*

Canadians are prepared to **upend the traditional Customer Decision Journey**

Earlier, we learned that about 77% of Canadians would use an AI assistant for shopping. This includes 17% of people who are prepared to completely hand over the entire shopping experience to AI. It also includes 28% of people who would use AI to find the best price, and 32% who would use AI to discover options from which they can choose. Given that major portions of marketing and advertising processes are dependent on these components, the Customer Decision Journey is headed for change – fast!

At the same time, it's interesting that 23% of people can't imagine using AI for shopping when many commercial websites already use AI, or precursors of AI, to recommend products and services as part of the product shopping experience or as part of their marketing and advertising engines.

Despite high expectations and comfort, **adoption of AI technologies is still in its infancy**

We know that Canadians are aware of the types of AI technologies that currently exist and they're prepared to use them. However, only 12% of participants reported that they currently use AI technologies in their personal life right now. Similarly, only 11% said they use them at work right now.

That isn't to say Canadians aren't open to acquiring AI technologies. Offered the choice between buying an AI-powered product and a standard product at the same price, more than one third (37%) of participants opted for the AI-enhanced one. Clearly, Canadians are ready to embrace AI technologies. They just haven't - yet.

Lack of clear unique benefit and trust are barriers to AI adoption

Besides using AI technologies without realizing it (e.g., product predictions, text or song prediction, smart home devices), low adoption rates may be the result of not knowing the specific benefits that AI-powered products already offer. We see this in the fact that the AI technologies Canadians already use are the technologies also viewed as most useful. For example, “promptly getting answers to my questions” (46%) is an ability that people already have on their computers and phones (see Figure 6).



Figure 6. Most useful personal applications of AI, % | **Q:** Which abilities of Artificial Intelligence would be most useful to you personally?

WHAT CANADIANS DO WITH AI

Low adoption rates are also likely the result of a lack of trust. While many companies are excited to take advantage of the benefits of new AI-based marketing technologies, many consumers currently feel unprotected from and exploited by companies trying upsell or seemingly mislead them with those technologies.

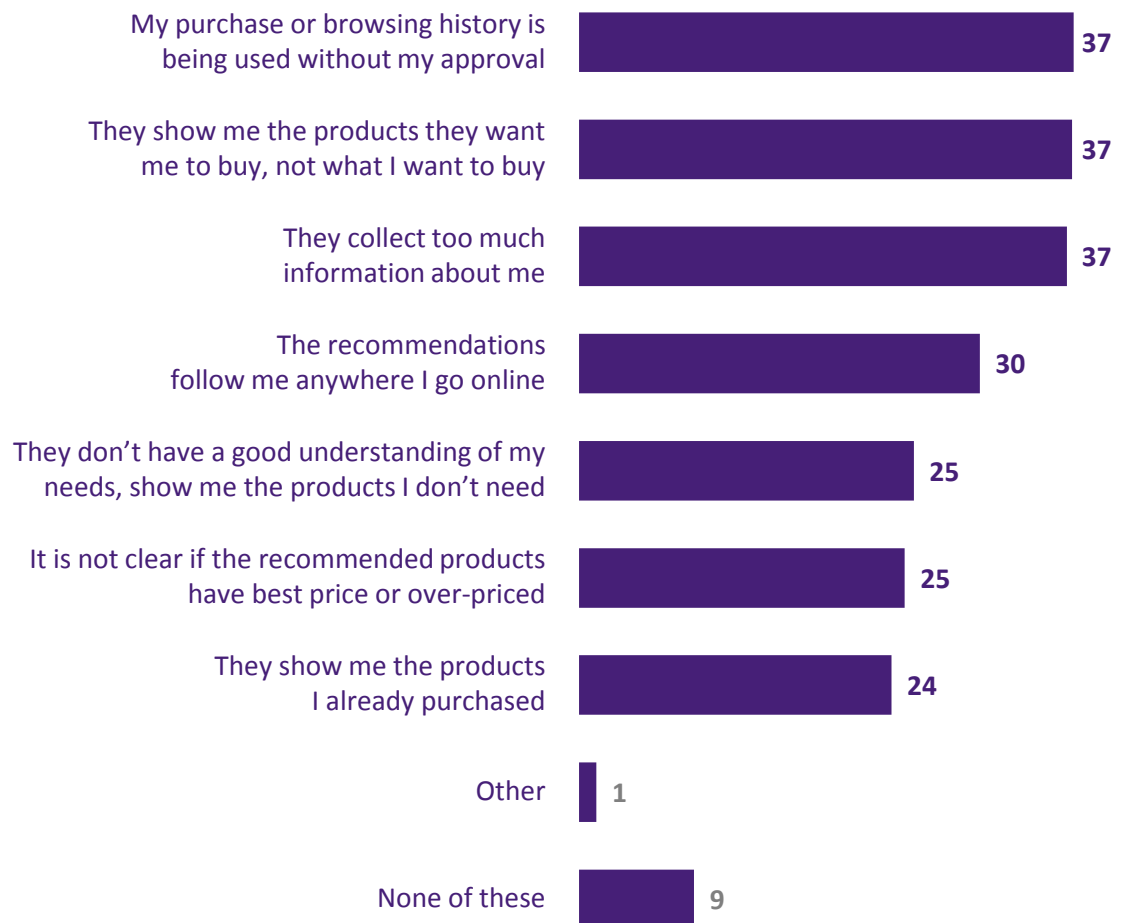


Figure 7. What consumers find annoying with online purchase recommendations, % | **Q:** *What are the most annoying things about companies providing you with recommendations online based on your purchase history? Please select no more than 3.*

Consumers want AI technology that works **for them**, not just for companies.

Recommendation engines are an obvious example of how technologies have caused consumers to be disappointed in AI technologies and mistrust companies. Canadians are generally fine with AI algorithms offering shopping recommendations (52%), but many people (37%) find it annoying that those same algorithms “show me the products they [the company] want me to buy, not what I want to buy”. Even now, shoppers are regularly annoyed when they continue to be shown products they have already purchased (see Figure 7).

Chatbots are another example of AI technologies that have demonstrated lackluster success thus far. Chatbots are quickly taking over customer service roles, and most consumers are okay with that (52%). However, consumers demand to know (78%), and rightly so, whether they are talking to a human being or a bot.

With so much uncertainty around AI technologies and the potential to abuse them, many people are suspicious of companies that implement AI, and negative associations (73%) of those companies outweigh positive ones (58%) (see Figures 8 and 9). Indeed, 41% of people believe that companies using AI are “focused on reducing their costs at the expense of people”, while only 12% agree that “they are focused on providing the best product and service to customers”. Consumers want AI technology that works for them, not just for companies.

WHAT CANADIANS DO WITH AI

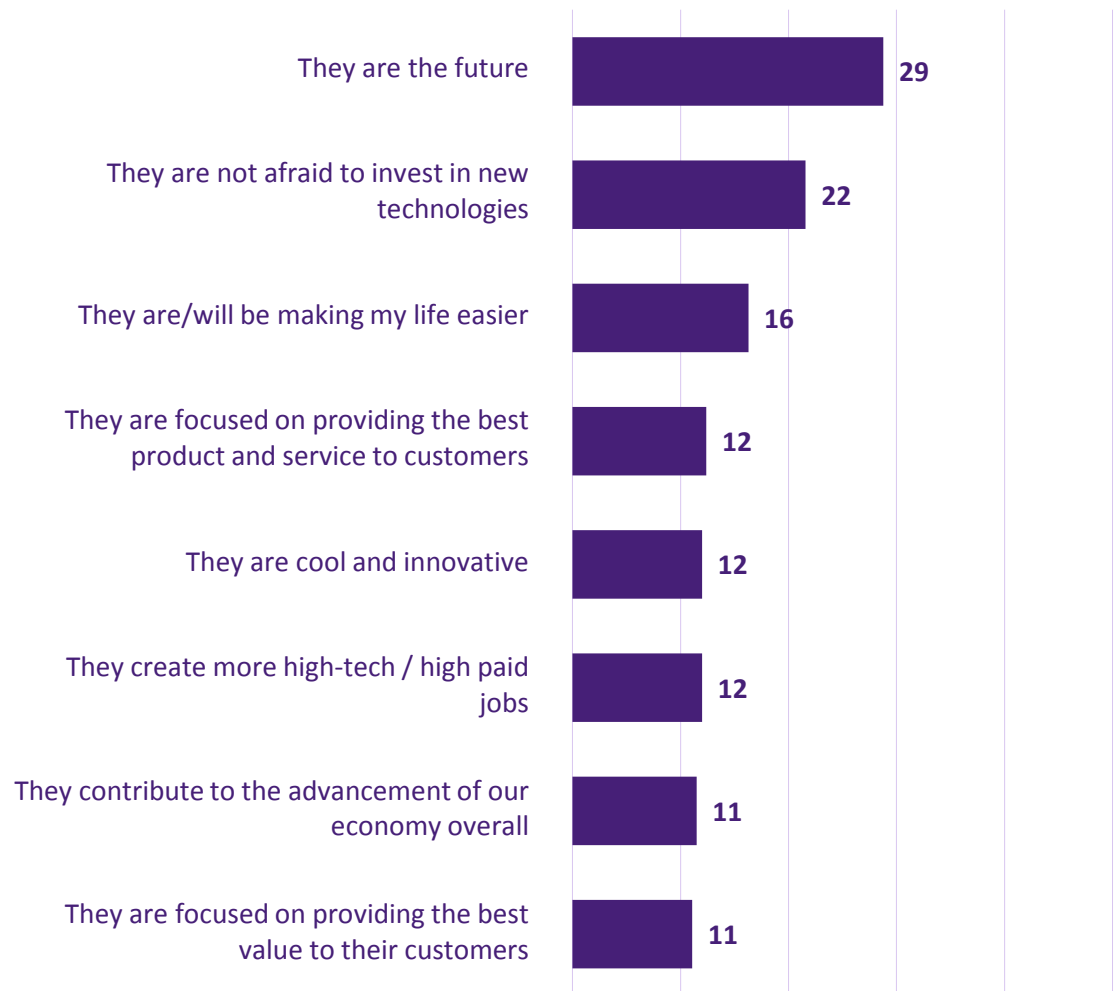
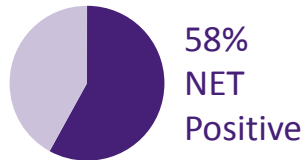


Figure 8. Positive reactions towards companies using AI, % | **Q:** Many companies are moving towards using Artificial Intelligence in their operations and communications with customers
What do you think about them?

WHAT CANADIANS DO WITH AI

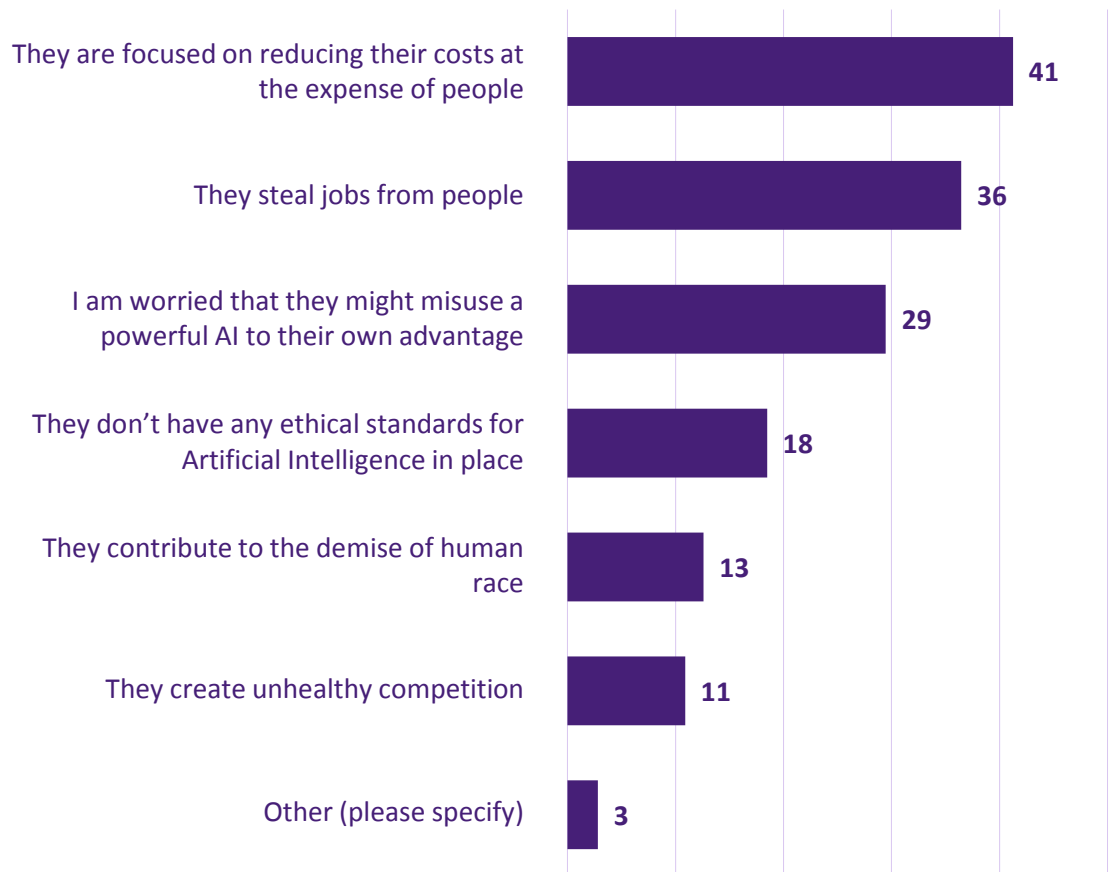
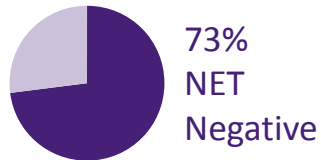


Figure 9. Negative reactions towards companies using AI, % | **Q:** Many companies are moving towards using Artificial Intelligence in their operations and communications with customers. What do you think about them?

The government is **expected to play an important role**

AI technologies are unquestionably driving social change, and Canadians are looking to the government to be a part of and help lead this change.

The majority of Canadians expect the government to play a role, particularly in the regulatory area. Specifically, 58% of Canadians want the government to “develop safety guidelines for using AI technologies”, and 54% of Canadians expect the government to “create new laws and regulations with regards to using AI technologies”, and 48% of Canadians expect the government to “provide free training programs for people pushed out of workforce by AI technologies and automation”. On the other hand, only 11% of Canadians do not want the government involved in any way in the process of unleashing AI technologies on society.

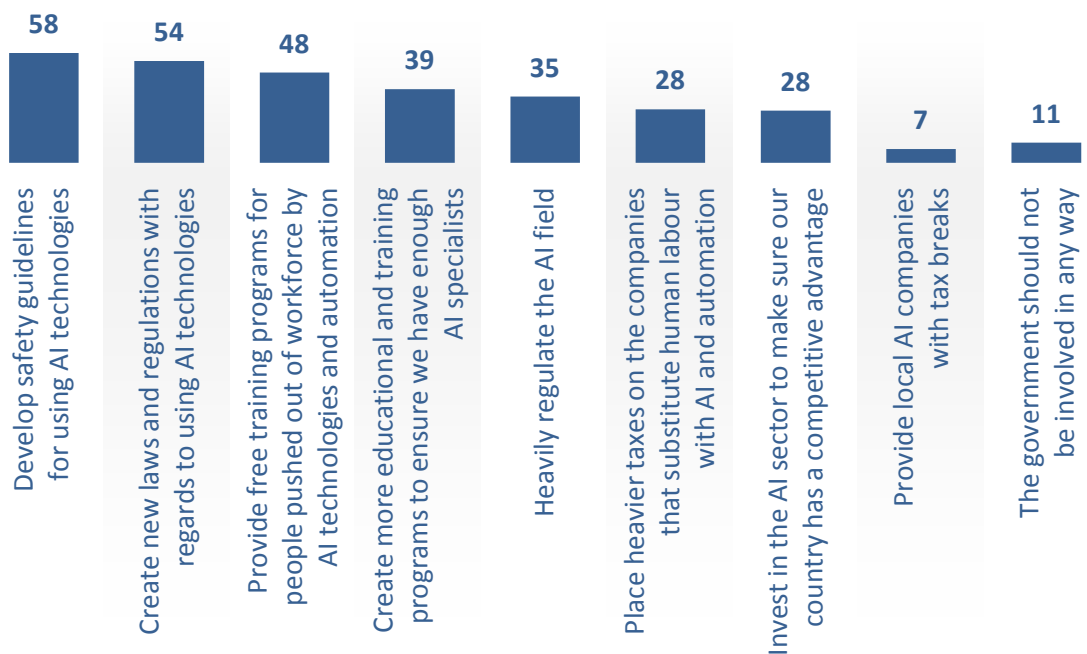


Figure 10. What the government should do with AI, % | **Q:** How comfortable would you feel if an AI would...

EXPECTATIONS FOR GOVERNMENT

While few people are aware of specifics around the Canadian government's current investment in AI (9%), the majority (84%) support this investment. However, most support this investment with at least some concerns (58%). If these investments are to serve the public well and continue to generate broad support, the government must clearly communicate the benefits to the public.

Given that most public concerns about artificial intelligence are centered on job security, the government must come up with clear programs that both create "more educational and training programs to ensure we have enough AI specialists" (38% agree) and provide "free training programs for people pushed out of workforce by AI technologies and automation" (48% agree).

Indications are that the government endorses AI technologies, but if they decide to also use AI systems, they must ensure those systems retain a human face when communicating with the public. We have learned that Canadians are generally comfortable with AI customer service representatives helping them to book tickets or hotels, but only 14% would be comfortable if an AI agent answered their government service inquiries. This concern comes back to a lack of trust in AI technologies that affect people's personal health and safety.

Canadians are **rooting** for their country to be at the **front of AI** research and development. The *government* must **facilitate** our potentially painful transition to the **knowledge economy**.

Lessons for the **government**:



1. Invest in AI Development: Invest in AI that reflects the public's desire for a brighter future in the knowledge economy.



2. Educate and Create Jobs: Create job transition plans and safety nets for workers displaced by AI technologies.



3. Create Regulatory Boundaries: Create new laws and regulations with regards to AI development and use, particularly with respect to the privacy and security of personal information.

With high levels of awareness, comprehension, expectations, and **readiness for adoption**, *businesses* must create **socially responsible** AI technologies.

Lessons for **businesses**:



1. Develop AI Purposefully: Build algorithms that best serve customer needs and make meaningful differences in both jobs and personal lives.



2. Use AI Smartly: Minimize pain points and build trust. Consider broader applications, and work to create industry standards rather than company-specific standards.



3. Adopt AI Responsibly: Broaden the embodiment of social responsibility to encompass more than just supporting a good cause or using green technologies. Social responsibility must now also include understanding how business strategies affect society and developing strategic plans that maximize the positive effects while minimizing the negative impacts of AI.

The way consumers engage with brands is going to change rapidly which will greatly impact how we market. *Brands and marketers* must strive for **purposeful** and **ethical** AI technologies that promote **public trust**.

Lessons for the **brands and marketers**:



1. Foster Consumer-Driven Innovation: Shape the end-user experience in a positive way by satisfying specific needs rather than simply using AI for 'upselling.'



2. Establish High Ethical Standards: Personalize content such that it is useful and impactful for consumers not simply a manipulation of human psychology. Rather than using AI technologies to maximize short-term gains leading to increased customer attrition, create AI technologies that help to build trust and foster long-term customer satisfaction and engagement.



3. Be Transparent and Honest in Communications: Be prepared to raise business standards and increase transparency around how AI technologies are used. Take advantage of AI capabilities to dramatically improve customer service and engagement.

How is your business addressing consumer perceptions of AI? Are you prepared to face the changes and challenges AI presents?

Sklar Wilton & Associates will guide your business through the disruptive force of AI and help **solve your tough business challenges.**



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