A Research Brief
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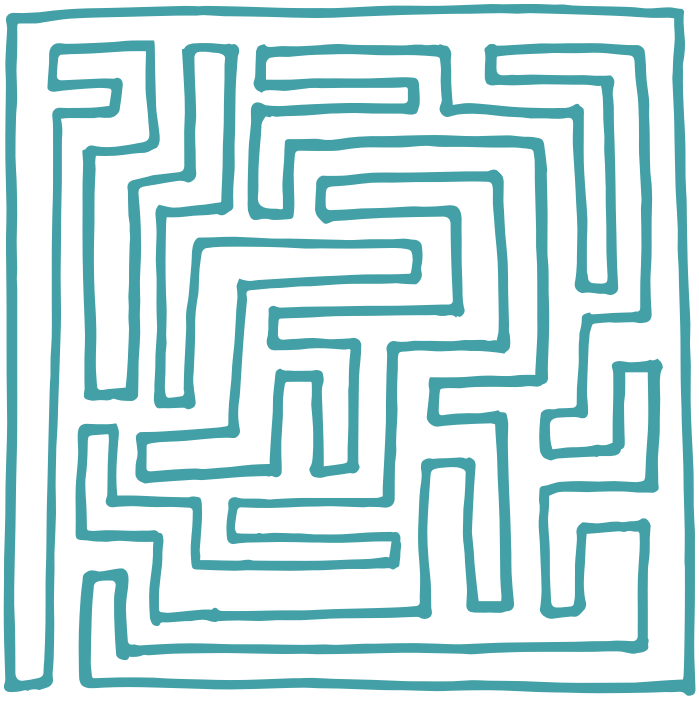
Thinking Inside the Box

Canadians lag Americans in their attitudes to innovation



IMPACT CENTRE

UNIVERSITY OF TORONTO

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Americans look at innovation more positively than Canadians

29% more American knowledge workers have a strongly positive attitude to innovation relative to Canadians with the same attitude.

If it isn't enough that we lag Americans in innovation performance, this study will add to the Canadian national angst by showing that we as individuals also lag Americans in our attitudes to innovation. For this study, we have defined innovation as the process of translating an idea or invention into a good or service that creates value for which customers will pay. Innovation is more than invention; it is also about the process of getting those inventions accepted in the marketplace.

We set out to look at five dimensions of innovative attitudes including:

- Willingness to take risks
- Independence
- Financial drive
- Grit
- Drive to innovate

We selected these characteristics after a review of literature on the subject. Unfortunately, there is no consensus on which attitudes are essential to successful innovation. We felt, however, that the dimensions chosen here covered a wide range of potential traits that make up an innovative attitude. To conduct the study, we asked 1,000 knowledge workers about their attitudes to innovation, receiving responses from 600 Americans and 400 Canadians.

We have discovered that a greater percentage of Americans look at innovation more positively than Canadians. American respondents score higher on almost every personality trait that is thought to drive innovation at the level of the individual.

Our study found that 29% more American knowledge workers have a strongly positive attitude to innovation than Canadians with the same attitude:

- 38% more American managers and 23% more American employees view innovation more positively than Canadians in similar work positions.

Canada's competitiveness hinges on our ability to innovate, and our hope may lie in future generations. In many of the dimensions of innovation, the percentage of Canadian respondents under the age of 35 approaches—and in one case exceeds—the percentage of Americans with positive attitudes to innovation. Americans with strongly positive attitudes exceed Canadians in this age group by only 20%. (Americans over 44 years of age exceed Canadians by 44%.)

This is by no means an exhaustive or academically rigorous study. Our intention is to add to the conversation about innovation and identify some reasons why we lag much of the developed world and what we can do about it.

Attitudes to innovation are a good starting point in the broader study of innovation. Attitudes matter because they set the tone. Attitudes can permeate from an individual to larger social networks and govern the organizations and businesses in which these individuals participate.

Attitude sets the tone for innovation

As Canadians, we continue to tell ourselves the story that we do not compare favourably internationally in innovation. Study after study has confirmed that we lag the rest of the world in our capacity for innovation.

- Canada ranks 16th on the Global Innovation Index behind smaller countries such as Switzerland, Sweden, Netherlands, and Finland.
- We rank 13th out of 16 peer countries on The Conference Board of Canada's Innovation Report Card.
- The World Economic Forum ranked Canada 15th out of 144 countries in its world competitiveness index.

While we excel at research, getting those inventions accepted in the market has turned into a national angst, with writers everywhere opining as to what should be done to claim our place as world leaders in innovation.

But are we looking at the full story? Do we really know why we are bad? Do we know precisely where we fail? And from that, can we figure out what to do about it?

The Impact Centre at the University of Toronto set out to address these questions. We want to figure out:

- Are Canadians actually bad at innovating, or are past surveys skewed?
- Innovation is a non-linear and complex process. If we are bad, what are we bad at?
- Why are we bad at these things?
- What are best practices in areas where we lag?
- How can we improve?

Our first study looks at Canadian attitudes towards innovation. Attitudes matter because they set the tone. Attitudes can permeate from an individual to larger social networks and govern the organizations and businesses in which these individuals participate. If these attitudes are negative and are hampering our progress, then there may be something we can do to spark changes in our cultural views on innovation. If our attitudes are not negative, then this suggests that we can look at other areas for answers to our problems.

The studies mentioned above do not explicitly address the issue of attitude. None have sought to determine whether one country boasts better attitudes to innovation than any other. We would like to add to the discussion of innovation by starting to look at attitudes. Attitudes are important because they drive individuals to engage in invention and to see the results of the creative process turned into a real product or process.

Attitudes to innovation are a precursor to a successful economy

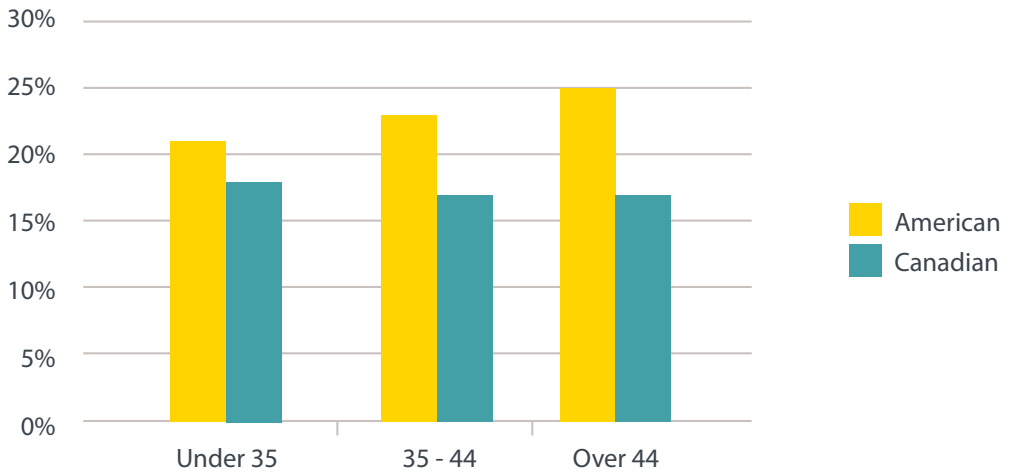
If our attitudes about innovation are not as positive as those found in the rest of the world, we will be less likely to come up with creative ideas for new products and processes. It is also unlikely that we will have the patience to turn these ideas into reality or to undertake the significant effort needed to make them successful in the marketplace. In fact, positive attitudes to innovation are one of the precursors to a successful innovation economy.

We set out to look at innovation by asking employed knowledge workers to answer 12 questions about their attitudes to innovation. The responses to these questions were grouped into five areas, and the results are summarized in the following sections.

Figure 1 shows the percentages of Canadians and Americans with strongly positive attitudes to innovation broken down by age group. Unfortunately, our study found that 29% more Americans have a strongly positive attitude towards innovation than Canadians who have the same attitude. American knowledge workers outscore us on almost every dimension of innovation, and this trend persists among managers and employees, men and women, and among all age groups.

Our only hope lies in the future. In many of the measures, the fraction of Canadian respondents 35 and under approaches—and in one case exceeds—the percentage of Americans who have strongly positive attitudes to Innovation. Americans who have strongly positive attitudes only exceed Canadians in this age group by 20%. (Americans over 44 years of age exceed Canadians by 44%.)

Figure 1. Percentage of respondents with strongly positive attitudes to innovation (by age)



Our willingness to take risks is questionable

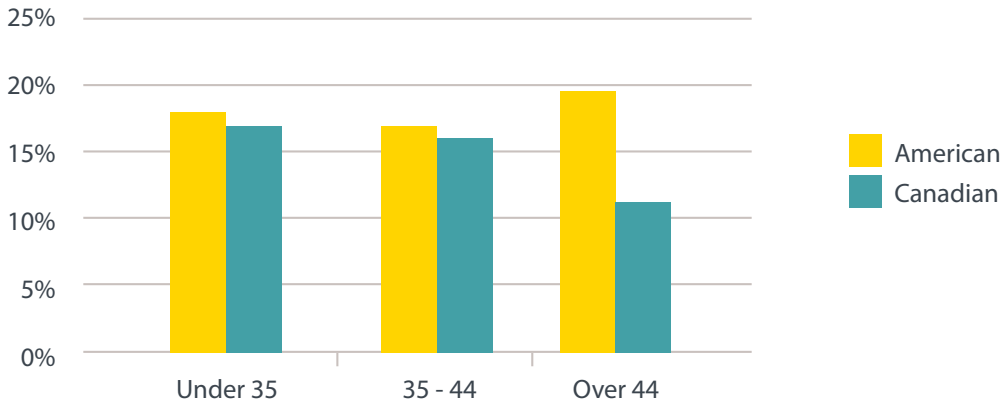
To innovate successfully, individuals must be willing to take risks. Risk taking must be encouraged in personal actions and in the workplace. Individuals are less likely to engage in innovative behaviour without encouragement and support from their peers and managers.

In order to measure willingness to take risks, we asked respondents how they felt about the following statements:

- I love trying things I've never tried before.
- I don't buy things until my friends have tried them out.
- I'm afraid to take risks.

Overall, Americans of all age groups showed a greater willingness to take risks. Figure 2 shows the percentage of respondents who view risks favourably. However, there is hope for the future. While fewer older Canadians (over 44 years of age) are willing to take risks compared to their American counterparts, almost as many young Canadians (under 35) are risk takers.

Figure 2. Percentage of respondents willing to take risks (by age)



We shy away from independence

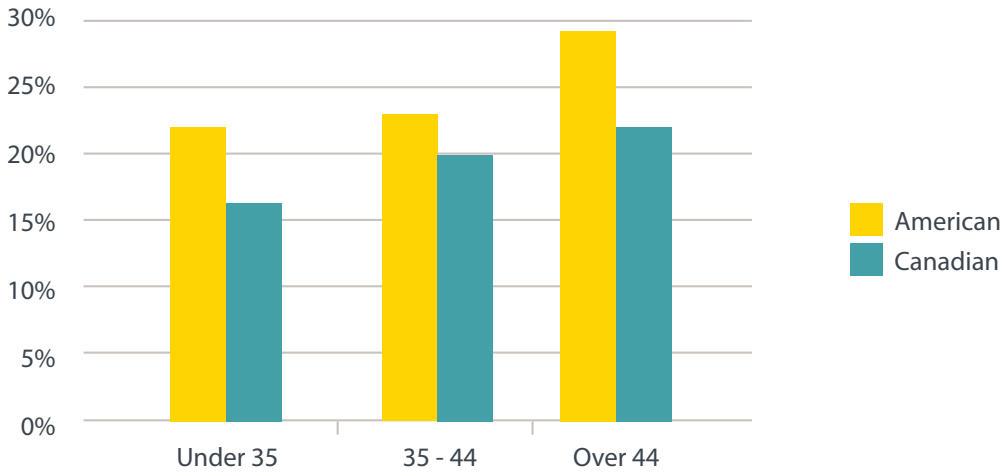
Independent thought is crucial to innovation. Successful innovators have the ability to see what others cannot; they go against the grain, think critically, embrace change, and are resilient in the face of criticism. Conventional thinking will move us forward gradually, but independent thinking can bring substantial jumps in performance and breakthrough innovations.

In order to measure the levels of independence, we asked survey participants whether they agreed with the following statements:

- I prefer it when someone tells me what to do at work.
- When working in a group, I try not to take responsibility for making decisions.
- I need lots of information before making a decision.

Figure 3 shows the percentages of respondents who expressed a need for independence. Overall, Americans outscore Canadian by 24% on this dimension, and they outscore us on every question related to independence. Even among those Canadians under 35, 29% more Americans than Canadians expressed a strong need for independence.

Figure 3. Percentage of respondents with a need for independence (by age)



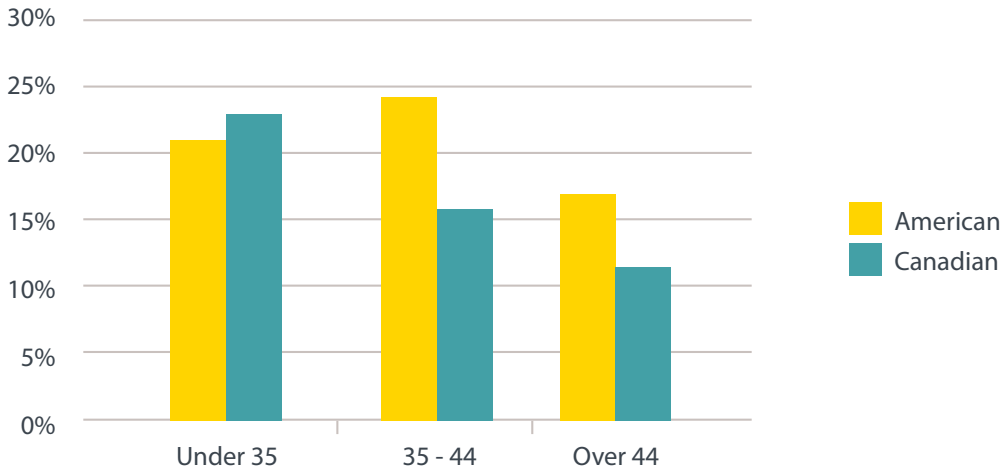
Earning a lot of money isn't as important to us

If you accept the premise that innovation is the driver of productivity and results in increased revenue and profitability for businesses, then one factor that would strengthen an innovation economy would be employees who innovate to make more money.

While researchers disagree on the importance of making money to long-term motivation, we thought it would be interesting to see if Americans and Canadians are driven to innovate by money to the same degree. In order to measure financial drive, we asked survey participants whether they agreed with the statement: "earning a lot of money is important to me."

Surprisingly, we did not find significant differences between Americans and Canadians in this category. The percentage of Americans who consider earning potential important is 20% greater than the percentage of Canadians who express the same opinion (Figure 4). But once again, if financial drive is an important factor in innovation, there is hope for the future as more young Canadians than Americans feel that earning a lot of money is important to them.

Figure 4. Percentage of respondents considering it important to make more money (by age)



We lack grit and perseverance

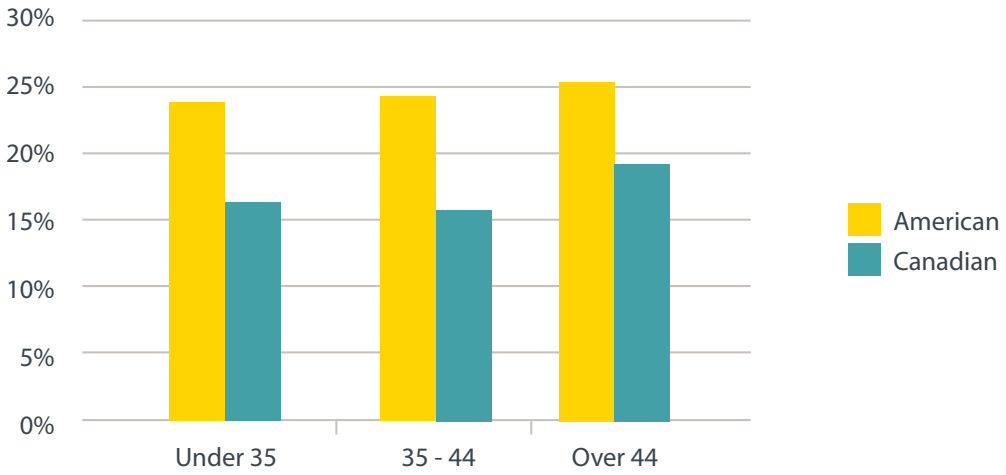
Studies by university researchers such as Professor Angela Duckworth have identified Grit, or perseverance and passion for long-term goals, as a key indicator of success. Grit is particularly important in innovation. The time it takes to get from an idea to a product in the market is long. This journey is also fraught with setbacks, delays, and roadblocks that can only be overcome with grit. Nowhere is this more important than in commercializing science.

To measure grit, we asked respondents whether they:

- Get discouraged when people tell them something is impossible.
- Give up easily.
- Get discouraged by bad news.

Figure 5 shows the percentage of respondents who exhibited signs of grit. Our results show that Americans are less likely to get discouraged or give up than Canadians in virtually every measure of independence. And in almost every measure, the gap between respondents in the two countries is almost identical. Unlike other attitude dimensions, younger Canadians score lower here and are not nearly as resilient as their American counterparts. So there is no apparent reason to hope that this issue will improve over time.

Figure 5. Percentage of respondents with grit (by age)



We are not driven to innovate

People's ability to come up with innovative ideas is a direct reflection of how much drive they have to identify new problems and generate solutions. Without a drive to innovate, people will not be looking for challenges and they will not be looking for solutions that result in innovative new products and processes.

To measure their drive to innovate, we asked the survey participants whether they frequently think of new ways to do things or imagine new products they could create.

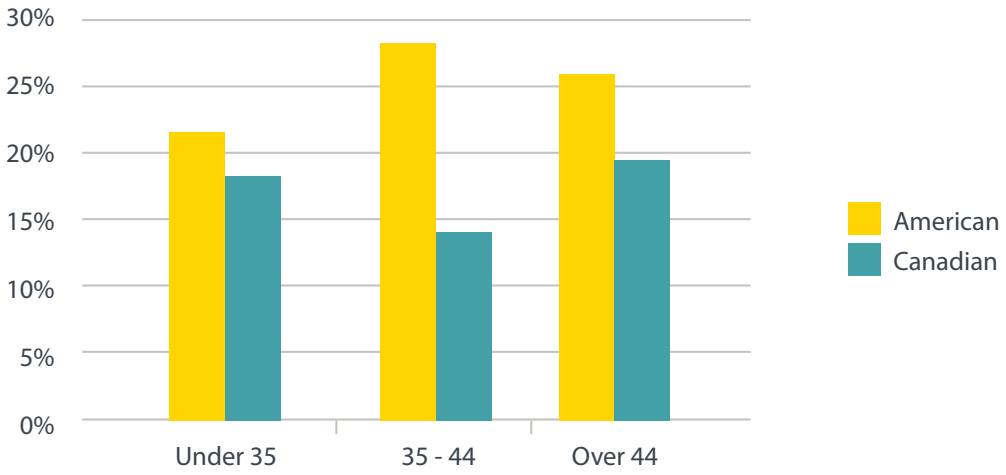
Figure 6 shows the percentage of respondents who are driven to innovate.

Americans are overall much more likely to come up with new ideas for processes and products. They outnumber Canadians by 31% when asked if they:

- Frequently think of new ways to do things.
- Frequently think of new products they could create.

Once again, there is hope for the future because Canadians under 35 only trail Americans by 17%.

Figure 6. Percentage of respondents with the drive to innovate (by age)



Methodology

To measure attitudes about innovation, we conducted a survey of 1,000 knowledge workers: defined as employed individuals with at least a college degree. We obtained answers from 600 Americans and 400 Canadians in November 2015.

We asked respondents whether they Strongly Agree, Agree, Disagree, or Strongly Disagree with the following statements:

1. I love to try doing things I've never tried before.
2. I don't buy things until my friends have tried them out.
3. I'm afraid to take risks.
4. I frequently think of new ways to do things.
5. I frequently imagine new products I could create.
6. I prefer it when someone else tells me what to do at work.
7. When working in a group I try not to take responsibility for making decisions.
8. I need lots of information before making a decision.
9. Earning a lot of money is important to me.
10. I am not discouraged when people tell me something is impossible.
11. I don't give up easily.
12. Bad news doesn't discourage me.

We grouped the respondents' answers into the five areas of the study and measured outcomes using two methodologies. We used a variant of the Net Promoter Score as our primary method of scoring responses. For illustrative purposes, we also tabulated responses where individuals Strongly Agreed or Strongly Disagreed (whichever was appropriate for the wording of the question).

This study was not intended to be academically rigorous; nor was it intended to be all-encompassing about the topic of attitudes. It was designed only to add to the conversation on innovation by looking at the level of the individual knowledge worker who may engage in innovation. We plan to complete further research on this subject in the future.

About the Impact Centre

Science to Society

We believe that science is the foundation for a better quality of life. Our vision is to be a place where you can connect with exceptional research, talent, training, innovative companies, and government to create products and services that benefit society.

Advancing Industry Innovation

We leverage the expertise and resources of universities to create real products and solutions for our clients. Our core competencies are in the natural sciences and engineering.

We catalyze university research to create long-term impact for our industry clients. We accelerate research to market!

Enabling Student Startups

The Impact Centre nurtures the creation and growth of student-led startups that are developing innovative products and services rooted in the natural sciences and engineering.

We provide training to help graduate students, recent graduates, and researchers transform their discoveries into real products and services that benefit society.

Training Innovators and Entrepreneurs

The Impact Centre offers research and industry-relevant training for professionals and students at all levels. We deliver speeches, workshops, undergraduate courses, and coordinate internship placements.

Our initiatives help professionals, undergraduate students, graduate students and postdoctoral fellows develop career skills to enable them to be successful innovators and leaders.

Studying Innovation

The Impact Centre explores questions at the intersection of science, business, policy, and society. We conduct research on all aspects of innovation, from ideation and commercialization to government policy and broader themes such as the connection between science and international development.

We study how companies of all sizes navigate the complex path between a discovery and the market and how their collective innovations add up to create a larger socioeconomic impact.

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