

### ***Top Spearman Correlations vs 95% Bootstrap Confidence Intervals***

The strongest correlates of national AI readiness are variables linked to compute scale and market formation, and all of the relationships are positive and statistically significant ( $p < 0.05$ ) with 95% bootstrap confidence intervals that exclude zero. The top feature is Total\_AI\_Datacenters (Spearman\_rho = 0.913; Mean\_r = 0.893; CI\_95 = [0.627, 1.000]). Next are investment measures:

Private\_AI\_Investment\_2013\_2024 (rho = 0.830; mean\_r = 0.794; CI\_95 = [0.284, 1.000]) and Private\_AI\_Investment\_2024 (rho = 0.782; mean\_r = 0.764; CI\_95 = [0.207, 1.000]). Measures of ecosystem dynamism are similarly strong: Newly\_Funded\_AI\_Companies\_2024 (rho = 0.782; mean\_r = 0.753; CI\_95 = [0.148, 1.000]) and Newly\_Funded\_AI\_Companies\_2013\_2024 (rho = 0.745; mean\_r = 0.711; CI\_95 = [0.118, 1.000]). Innovation outputs also matter: Notable\_ML\_Models\_2003\_2024 (rho = 0.758; mean\_r = 0.731; CI\_95 = [0.150, 1.000]) and Num\_AI\_Related\_Patents (rho = 0.699; mean\_r = 0.657; CI\_95 = [0.143, 0.959]). Finally, a trust-related survey item, Trust\_Companies\_Item\_8\_1\_5\_PP\_Change (rho = 0.691; mean\_r = 0.645; CI\_95 = [0.190, 0.938]), is also positively associated with readiness.

### **Recommendations and Expected Impact**

#### ***National AI Compute Initiative - Actions, Target, Justification, & Est'd Impact***

##### **Actions:**

1. The co-funding of 10 new AI-ready data centres with private partners, fast-track permits, and power connections at pre-zoned sites.
2. Stand up a shared national GPU/accelerator service so universities, startups, and government teams can rent time without leaving Canada.
3. Tie public dollars to open-access slots to support Canadian IP retention.

**Target:** To grow specialized hardware capacity from ~3,108 to ~20,000 “H100-equivalent” units by 2030, and to reach 10 AI data-centres up from the current 5.

**Justification:** Canada’s top structural gap is infrastructure. “Total AI data centres” is the #1 correlated feature (Spearman = ~ 0.91) and the top decision-tree splitter (importance = ~ 0.96). Canada has only 5 AI-capable centres, compared with 26 in the US and 24 with China. In the PCA, infrastructure variables (power and hardware capacity) strongly separate high performers from the mid-tier cluster that Canada sits in.

**Est.’d Impact:** This will drive the infrastructure pillar directly, and help boost Canada’s National Competitiveness Score.

#### ***AI Investment Acceleration Fund - Actions, Target, Justification, & Est'd Impact***

##### **Actions**

1. Launch a federal \$1B co-investment fund for late-stage AI scale-ups and infrastructure-dependent products.
2. Offer Scientific Research and Experiment Development tax incentives for AI hardware deployment and national cloud use.
3. Create a pension-compatible sidecar investment vehicle to crowd in private capital.

**Target:** To triple private AI investment from \$2.9B to \$9B by 2028, and improve Canada’s investment ranking from 7th to 4th.

**Justification:** Private AI investment is a top-three correlated feature ( $\rho \approx 0.83$  for 2013–24,  $\rho \approx 0.78$  for 2024). Canada lags significantly in private capital formation compared with the U.S., U.K., and Singapore. “Newly funded AI companies” is also a high-ranking predictor, so strengthening late-stage funding helps both investment and startup formation metrics.

**Est.’d Impact:** Strengthens the Investment and Commercialization pillars. Expected contribution of +2–3 points in the short term and +5 points by 2030, enabling other programs (models, startups) to scale effectively.

#### ***Canadian Foundation Model Program - Actions, Target, Justification, & Est'd Impact***

## **Actions**

1. Fund 5 large-scale Canadian foundation models, preferably open-weight, built on domestic infrastructure.

2. Guarantee priority access to the national accelerator cluster (6.1).

3. Introduce Canadian IP clauses and SME licensing/fine-tuning programs.

**Target:** Increase Canada's output of notable ML models from 61 to 150 by 2030, and reach Top-5 globally in research model impact.

**Justification:** “Notable ML models” is one of the top five features in correlation and feature-importance rankings ( $\rho \approx 0.76$ ). Model output strongly co-varies with investment and infrastructure in the PCA, indicating it is a central marker of innovation density. Canada’s research is strong, but high-visibility model outputs remain modest relative to potential.

**Est.’d Impact:** Direct lift to the Research/Innovation pillar. Helps unlock downstream commercial ecosystems, contributing +2–3 points over the decade.

## **National AI Literacy & Trust Mission - Actions, Target, Justification, & Est’d Impact**

### **Actions:**

1. Introduce free AI micro-credentials for workers and students.

2. Embed “Introduction to AI” modules in K–12 and postsecondary curricula.

3. Launch public awareness campaigns, SME “AI Clinics,” and government-wide AI upskilling.

**Target:** Improve Canada’s AI literacy rank from ~27 → Top-10 by 2028, increase trust indicators by 15 percentage points.

**Justification:** AI literacy and trust appear heavily in Canada’s “Top 10 Gaps” vs. high-performing countries. Multiple trust/literacy indicators show moderate-high correlations with the score ( $\rho \approx 0.59$ –0.69). Canada’s literacy ranking sits in the bottom third, making this one of the most visible and correctable structural weaknesses.

**Est.’d Impact:** Improves the Operating Environment pillar and boosts adoption of domestic infrastructure and models. Expected +1–2 points in the short term, with larger indirect benefits as adoption improves.

## **AI Startup Accelerator Network - Actions, Target, Justification, & Est’d Impact**

### **Actions:**

1. Establish five regional accelerators matched to local industries (health, climate, finance, resources, public service).

2. Provide procurement pathways and federal demonstration projects.

3. Offer national infrastructure credits (from 6.1) so startups can train/serve models domestically.

**Target:** Increase new AI companies from ~51 to 100+ per year, and add ~10 unicorns by 2028.

**Justification:** “Newly funded AI companies” is a top-ranked predictor ( $\rho \approx 0.75$ –0.78). Canada’s startup formation rate is far below the Top-3 group. PCA and correlation charts show that startup formation is tightly linked to investment and infrastructure — two of Canada’s clearest deficits.

**Est.’d Impact:** Helps build a robust Commercialization ecosystem. Expected +2–3 points over time, plus indirect gains to Investment and Research use of national infrastructure.

## **Summary of Key Risks and Mitigation Strategies**

National AI development faces several structural risks across infrastructure, talent, economic investment, public trust, and policy coordination. Infrastructure risks stem from insufficient power capacity for new data centers, requiring proactive utility engagement, pre-zoned sites, and mandated cooling and heat-reuse systems. Talent risks remain acute due to continued AI “brain drain,” prompting the need to condition GPU access on Canadian residency, expand IP-anchored fellowships, and create an AI Talent Visa.

Economic risks arise from the possibility that private capital will underinvest relative to public commitments; first-loss and sidecar structures, along with modernized SR&ED credits for compute and AI, act as stabilizers. Social risks involve public distrust of AI in government services, which can be mitigated through national AI literacy efforts, stronger human-in-the-loop governance, and transparent

registries. Execution risks focus on fragmented federal–provincial policy environments, suggesting the creation of a centralized “AI Delivery Unit” to coordinate implementation and monitor jurisdictional performance.