

Asian emerging markets: different business opportunity for Canadian SMEs
Part 2. “Appropriate innovation” for Asian emerging markets: demand side perspective

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The usual perspective on innovation focuses on investment in advanced science and technology (S&T) and high-level research and development (R&D). This is a *supply side* approach to innovation, aimed at the technological frontier, to create leading edge products and services. This is certainly important for strengthening productivity, and improving the competitive performance of firms and economies on global markets. However, Canada has persistently [lagged](#) on traditional measures of such innovation, despite considerable efforts and expenditures on the part of governments of all stripes. Innovation focusing on leading edge technology is particularly challenging for SMEs, with limited resources.

An alternative but complimentary approach takes a *demand side* perspective, aimed at creating **appropriate innovation** for Asian emerging markets (also referred to as [frugal](#) and [jugaad](#) innovation). It focuses on the unmet needs and actual characteristics of the majority of Asian emerging market consumers who have high aspirations but lower incomes.

Interaction with these consumers at early stages of product development is essential for understanding their needs and constraints. The resulting user-driven approach to new products and services may be technologically far less demanding, often involving adapting existing lower-level technologies in novel ways to local consumer needs and market constraints. Commercialization involves also addressing emerging market constraints such as infrastructure gaps. This may require innovation of non-traditional sales, marketing, distribution channels, services, and business models essential for reaching consumers in fragmented lower-tier urban and rural markets. The focus is on *breakthrough customer insights* rather than breakthrough new technology; and on *value for many*, not only on value for money.

The concept of *appropriate innovation* is within the reach of both small and large firms. Resulting products and services may also allow scaling up to serve global niche markets, including in developed economies ([reverse innovation](#)), particularly as buying patterns become more cautious and value-driven. Partnerships between Canadian firms (SMEs) and Asian emerging economy firms can further strengthen product market strategy, for mutual benefit.

Several successful examples of appropriate and reverse innovations, particularly from India and China, build on an understanding of Asian emerging markets and their consumers.

- First Energy’s Oorja stove, developed originally for rural India, is a low-smoke, low-cost, highly efficient stove, powered by rechargeable batteries with pellets from organic bio-fuel made of processed agricultural waste. Commercialization included distribution through partnerships with rural NGOs, and a special role for women entrepreneurs. It is now marketed in Asia and beyond.
- India’s Vortex Engineering designed an Automated Teller Machine (ATM) to constraints in rural and semi-urban areas, such as unreliable power supply, high illiteracy levels. It is solar powered, consuming about 10% of a conventional ATM, generates much less heat, eliminating the need for continuous air conditioning; and uses a fingerprint identification system. Costing less than half a conventional ATM, it is now exported to Asia and Africa.
- China’s Galanz developed microwave ovens that are simple, energy efficient, low cost, small and flexible for local needs, with novel applications for stir-frying, deep-frying, and steam cooking. It

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then built what had been a minor local Chinese market, into a mass global market, in which it now holds a dominant position.

- A group of Stanford students, from field work in Kathmandu Nepal, designed the Embrace Incubator. It is small and light; easy and inexpensive to transport, and can be sanitized in boiling water. It costs \$25, as compared with as much as \$25,000 for a traditional incubator and is now distributed globally. Recently Embrace Innovations launched a new line of baby products for the US market called Little Lotus Baby, using unique technology for swaddles and blankets to keep babies at an ideal temperature and help them sleep better.
- GE developed in India and China market-responsive and user-friendly ultrasound and electrocardiogram (ECG) machines specifically to meet income, infrastructure and service constraints faced in emerging Asia. The company then also found lucrative U.S. and European niche markets for related products, leading to a global corporate initiative called GE Healthymagination for underserved marginal communities.
- A Canadian example is Jigsee Inc., a start-up that developed technology for video streaming for older cellphones and unreliable networks of emerging markets; with product development in Ottawa and market development in India, for regional markets. The start-up was later acquired by India's Vuclip, the world's largest independent mobile video and media company.

A more granular focus on Asian emerging market consumers, with a corresponding 'demand side' approach to *appropriate innovation*, could add an important dimension to a Canadian economic strategy for Asia. It is also more likely to be within the reach of most Canadian firms, particularly entrepreneurial SMEs. This could lead to significant benefits for both Asian consumers and Canadian firms, and support longer-term objectives of a wider and more effective economic strategy for the region.

Further Reading

Abonyi, George. "[Best Policy Practices for Internationalization of SMEs' Trade and Investment for ASEAN and East Asia.](#)" In *Innovation, Technology Transfers, Finance, and Internationalization of SMEs' Trade and Investment: Policy Best Practices for ASEAN and East Asia*, edited by Sothea Oum, Patarapong Intarakumnerd, and Shigeo Kagami, 37-96. Jakarta: Economic and Research Institute for ASEAN and East Asia (ERIA), 2015.

The Economist Intelligence Unit. [Under the Radar: Innovation Evolves in Asia.](#) Economist Intelligence Unit Limited, 2014.