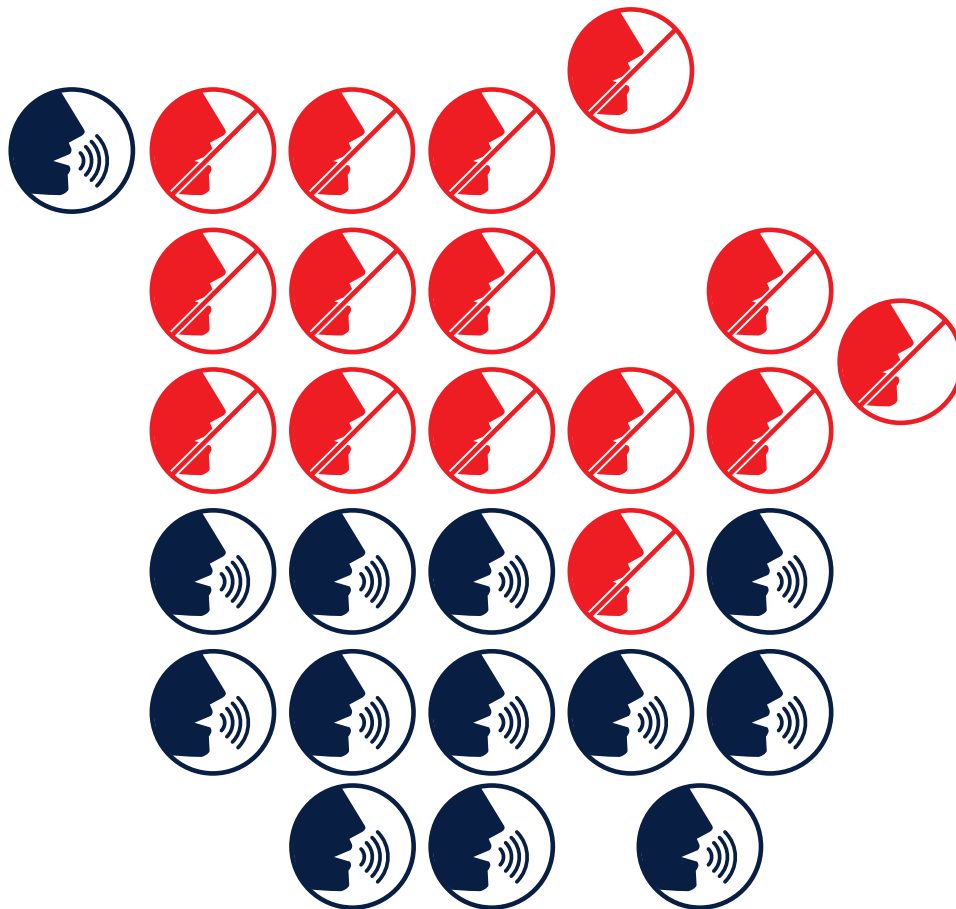


# A Nation of Soft Sellers

Do Canadian tech companies underperform in global markets due to low expenditures on marketing and sales?



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# Are We Soft Selling Innovation?

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In order to become more competitive, Canadian companies must pay more attention to how they market and sell their ideas while policy makers must devise more effective supports that reflect the entire innovation formula, including marketing.

Improving Canada's lacklustre performance in innovation has been a persistent challenge. Experts continue to blame our inability to turn ideas into tangible products and services on a complex set of factors such as low business expenditures on research and development (BERD) and shortage of venture capital (VC) funds. Yet, even with significant investments and a growing portfolio of policy instruments to spur business innovation and growth, the performance of our national innovation system remains weak.

Given this troubling trend, it is time to go back to basics. We must challenge our core assumptions about what innovation means and how it happens. In fact, one way to boost the commercialization of Canadian products and services is already right under our noses, effectively embedded in the definition of innovation.

Most definitions of innovation echo a common theme which suggests that innovation does not stop, as many would believe, at invention or product development. For an invention to create value or be implemented in the real world, you need to get that invention accepted in the marketplace and in use by consumers. And the only way to do that is to **market and sell** the invention so it becomes an innovation. The formula for success in innovation then is as follows:

## **Innovation = Invention + Marketing**

Our success as an "Innovation Nation" will depend not only on our ability to come up with novel ideas or inventions but also on our ability to market and sell those ideas. So, how does Canada do in terms of spending on marketing and sales (M&S), particularly when compared to our neighbour to the south?

There is a striking difference in the spending behaviour of Canadian and American firms and their treatment of M&S. While mid-sized US software companies spend, on average, 34% of their revenue on M&S, comparable Canadian firms only allocate 20% of their budgets to those expenditures.

Although marketing and sales are clearly important in getting a technology accepted in the market, the discussion on science and innovation in Canada has paid little to no attention to this part of the innovation formula. Canada also does not have a BERD-like indicator that captures business expenditures on M&S in the technology space.

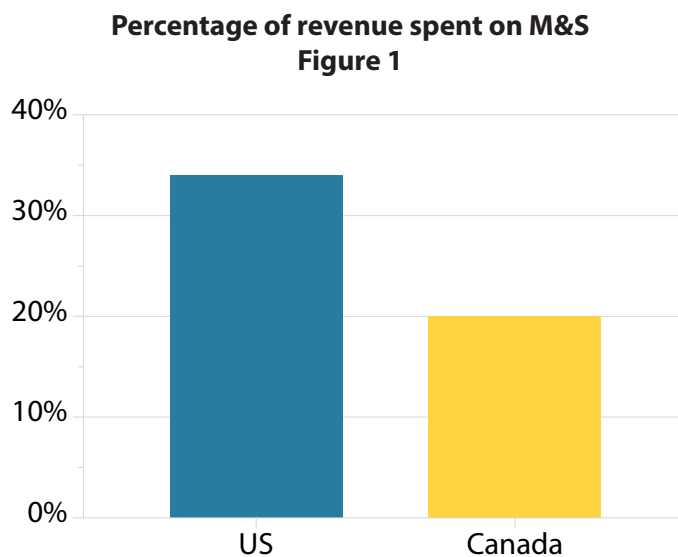
This neglect of M&S may be one root cause of Canada's laggard innovation performance. We are soft selling innovation and not backing our inventions with appropriate budgets on marketing and sales that are critical to the wider adoption of products and services.

In order for us to become more competitive, Canadian companies must pay more attention to how they market and sell their ideas while policy makers must devise more effective supports that reflect the entire innovation formula—including marketing.

# Marketing and Sales Spending

To better understand how competitive firms spend on M&S in Canada and the United States, we compared the financial statements of 141 US and 36 Canadian public software companies. Our analysis covered mid-sized companies with \$1 million–\$250 million in revenue.

The data clearly show that at least in the software sector, Canada trails the US in expenditures on M&S. While US companies spend on average 34% of their earnings on M&S, comparable Canadian firms only spend 20% of total earnings on the same function (Figure 1).

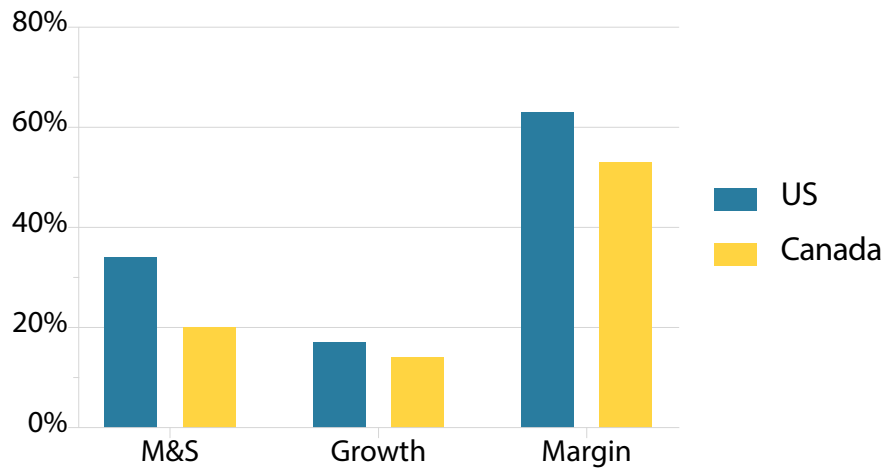


Does this matter?

The answer is certainly yes. The success of any product or service hinges on how well it is accepted in the market—and the M&S function is an integral part of this process. It is the function that works most closely with the marketplace and articulates the value of the product or service to prospective customers. An effective M&S function engages end-users, creates awareness around the innovation, and aligns customer needs with the technology development team in the organization. When executed effectively, all of these translate into more sales and higher earnings.

The US firms in our study showed a slightly higher average growth in revenue per year over the last year studied: 17% for US firms and 14% for Canadian companies. US firms also earned a higher gross margin (64%) relative to Canadian businesses (53%) (Figure 2).

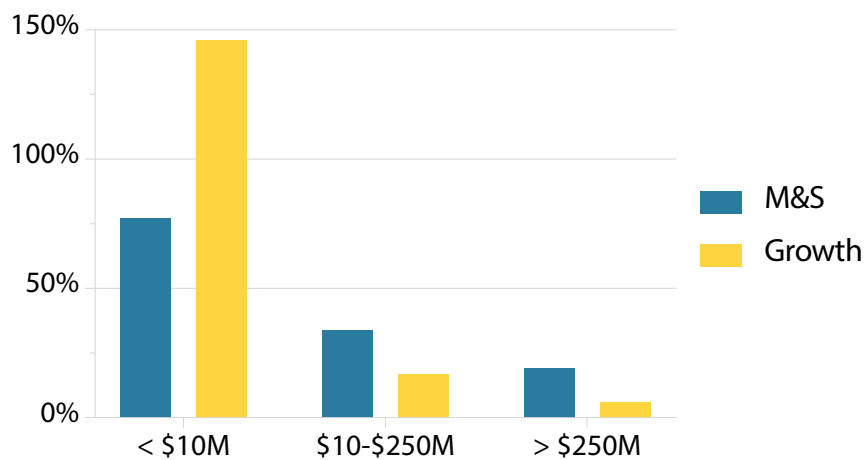
**Relative spending on M&S impacts results**  
**Figure 2**



The difference between growth rates may not seem large, but we are dealing here with established public companies, not rapidly growing unicorns where marketing and sales expenditures are more pronounced and a greater factor in growth. Furthermore, the gross margins point to a remarkable difference between the two countries: it is possible that Canadian firms are using lower prices as a basis of competition rather than accentuating product benefits through increased expenditures on marketing and sales.

Marketing and sales also appear to be of greater importance in earlier years. A study released several years ago showed that young, high-growth firms under \$10 million in revenue spent an average of 77% of revenue on marketing and sales, while growing at an average annual rate of 146% (Plant, 2005). Contrast this with larger public companies in our current study that spent an average of 19% on M&S and grew at an average annual rate of 6% (Figure 3).

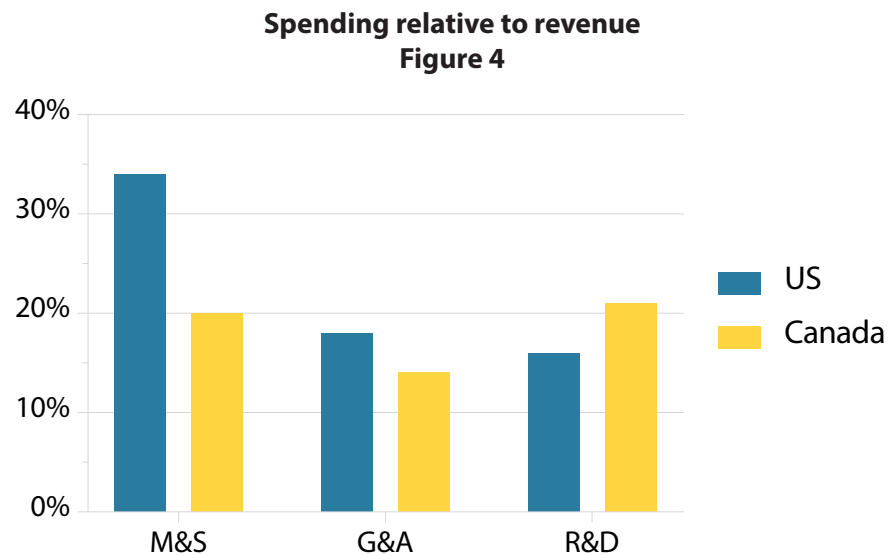
**Relationship between M&S and growth rates**  
**Figure 3**



## Other Expenditure Issues

Beyond marketing and sales expenditures, financial statements are a rich source of data. We can also look at other strategic choices a firm makes regarding the allocation of resources and spending. Figure 4 shows the breakdown of major expense categories—including M&S, general and administration (G&A), and R&D—all relative to earnings.

The investment in R&D is a particularly important benchmark because it is a measure of the health of private sector innovation. This metric is a well-known point of weakness for Canada because our businesses invest in innovation at levels that are below the OECD average (*OECD Science, Technology and Innovation Outlook 2016 – Canada Country Profile*).



Interestingly, the numbers here suggest that while the US spends more on marketing and sales, Canadian software firms spend proportionately more of their revenue on R&D. We believe that these statistics give credence to our claim that the government of Canada is not calculating BERD properly. The definition used by the federal government does not follow the commonly accepted definition used by the rest of the OECD countries. For more details on this analysis, please see our April 2016 report entitled *Losing Count: Canada Has Been Underreporting Expenditures on Research and Development*.

We also looked at the relative ratios of R&D and M&S expenditures, which together reflect the two most important factors in the innovation formula: invention and marketing. US businesses clearly prefer to spend money on marketing and sales. In fact, they spend nearly twice as much on M&S as on R&D, while Canadian companies allocate funds more evenly between the two categories.

# Implications for Business and Policy Makers

Although more work needs to be done to fully understand how spending patterns impact earnings and market adoption in the technology sector, there is a clear correlation between investment in marketing and sales and business growth and profitability.

US businesses have figured out how to succeed at both invention and marketing while the dialogue in Canada still largely centers on invention. Even though Canadian researchers and firms have produced remarkable technologies, they have not managed to emulate the sheer scale of successes found in the US, in software and other sectors. If we can deliver the quality and quantity of ideas, then are we simply failing to market and sell those ideas?

We believe that we must question our fundamental perceptions about how products and services actually move from idea to market. Spending on R&D is not the only antidote to our innovation troubles. Although Canadian software firms spend a larger fraction of their revenues on R&D, they do not allocate nearly as much to M&S, and perhaps consequently fail to capitalize on their inventions to create world-leading firms.

The marketing function has been neglected in most discussions about commercialization in industry, government, and the higher education sector. The focus on invention is also reflected in business support programs that often allow R&D and related activities as eligible expenses but rarely support activities related to business development, sales, or marketing. In fact, we will look more closely at government funding programs in a future Impact Brief.

In an age that has seen a significant shift from product- to customer-centric innovation, marketing and sales serve as the critical interface to customers and their needs. The lesson for companies is that they have to shift some of their resources from R&D to actually selling their products or services. The lesson for policy makers is that they must not only look at BERD, but also benchmark our industry in terms of business expenditures on M&S. A better understanding of how invention and marketing converge to create successful innovation outcomes will help create more effective programs that will position Canadian companies more favourably in the global marketplace.

# Methodology

This study looked at the expenditure patterns of 141 public US companies (\$100 million to \$250 million in revenue) and compared this to the spending of 37 public Canadian firms. All firms were in the software industry. It also included data from 175 public US companies above \$250 million in revenue and data from an earlier study, (Plant 2005) that looked at 64 emerging high-growth software companies with revenue below \$10 million. Data was obtained in the case of US companies from SEC filings available through Edgar and in the case of Canadian companies through SEDAR filings.

The companies that were selected were those that disclosed their marketing and sales expenditures separately on financial statements, thus restricting the number available for analysis.

We also intend to apply similar analyses to other sectors such as advanced manufacturing and cleantech to see if the trend holds in non-IT sectors.

This study was not intended to be academically rigorous; nor was it intended to be all encompassing about the topic of marketing and sales spending. It was designed only to add to the conversation on innovation and highlight areas worthy of future research by looking at data available from publicly available sources. We plan to complete further research on this subject in the future.



# About the Impact Centre

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## 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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