## Claude Legrand and Rob LaJoie

The greatest obstacle to discovery is not ignorance; it is the illusion of knowledge.

Daniel J. Boorstin (1914–2004) Historian, professor, attorney, and writer

In the national quest for ground-breaking R&D discoveries and inventions, service innovation is frequently ignored at considerable cost to an organization's bottom line and a nation's productivity. For the fact is that innovation applied systematically to all activities outside of R&D can make the difference between uninspiring results and substantial growth in every sector.

Many countries, in particular in Europe, have recognized the importance of service innovation and are devoting considerable resources to research, the capture of best practices, and the measurement of progress and success. Given the physiognomy of the modern economy, it does not make sense for leaders in the Canadian public sector to devote all available innovation investment dollars to science and technology R&D.

This article explores why service innovation is not yet a priority on the innovation agenda in Canada and why we should correct the dangerous misconception that there is just one "innovation gap" that needs to be addressed. It provides practical recommendations that public and private sector leaders can use to take advantage of this under-valued, high-potential innovation opportunity and calls for the creation of a national service innovation resource to support enterprises of all sizes as a means to improve Canadian productivity.

#### Introduction

Breakthrough new products are every company's dream, but today they represent a fraction of the achievable innovation opportunities *hiding* in plain sight in every organization. For example, organizations frequently ignore the wide variety of opportunities for service innovation, which represent an untapped source of potentially substantial growth.

And, although the service sector is an obvious place for service innovation, it is definitely not the only one. Service innovation applies directly to service functions such as human resources, finance, information technology, or sales, and also to the world of manufacturing through the "servitization" of products (i.e., selling services that are complementary to a product). In fact, ser-

vice innovation can benefit every sector of our new economy, from high technology to public service, and from retail to manufacturing.

But, if service innovation is so important, why is it not a priority in every organization? The answer is that, since 1776 when Adam Smith discussed the "unproductive" work of services (tinyurl.com/8yptxdo), the service sector and service activities have never been considered serious. The attitude was: "They don't create anything tangible, therefore they don't count."

Service today is still considered an add-on to the core economy that was initially dominated by agriculture, and then industry starting at the end of the 19th Century. The minister in charge of "business" in Canada is still the Minister of Industry and close to 100% of the

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funding for research and innovation still goes to science and technology, which are primarily supposed to feed the manufacturing sector. This is despite the fact that the service sector represents over 70% of gross domestic product (Statistics Canada, 2013; tinyurl.com/k2lbpzn) and 77% of employment in Canada today (Statistics Canada, 2013; tinyurl.com/m9qs2an), and service jobs account for as much as half of all the positions in any modern manufacturing organization (US Bureau of Labor Statistics, cited in McKinsey & Company, 2012; tinyurl.com/kphm7zb).

In addition, the service sector is "messy" because of the way it was created, as a catch-all for "minor" economic activities outside of agriculture, resources, and manufacturing. It is a heterogeneous amalgam of sectors that have little in common, from investment banking to a convenience store, from healthcare to transportation. Service also includes internal activities that are fundamentally different such as finance, information technology, or sales. In the authors' view, this complexity explains in great part why it is poorly researched by organizations such as Statistics Canada (statcan.gc.ca) and why service innovation is barely a blip on the research radar in Canadian universities. In Europe, however, the service sector, service functions, and service innovation are now a critical focus of governments and corporations with major investments in fundamental and applied research.

As a result of this long-term neglect, innovation in services has been seen, at best, as an art not a science. This view has serious consequences. It means that every time an organization wants to innovate in services, and many know they must, it needs to start from scratch. There is limited, if any, opportunity to share and build on the experiences of others. As a result, service innovation processes often cannot be improved, let alone optimized. For small- and medium-sized enterprises that do not have the resources to develop their own processes, the challenge is even greater: either they "get lucky" or, more often, they try, fail, and close the book on innovation outside of R&D.

In this article, we explore the multiple innovation gaps and then focus on the importance of service innovation, including how it can improve performance in the manufacturing sector. We then identify how innovation happens in service and how organizations can implement innovation in everything they do by focusing on innovative thinking and a supportive organization.

#### The Innovation Gaps

When the topic of why Canada lags in innovation is discussed, the problem is often described as an "innovation gap" as if only one gap exists. In practice there are several, depending on the context and how the term "innovation" is defined.

Scientists and governments, as well as the mainstream media, tend to define innovation as inventions, discoveries, or R&D innovation in science and technology. In this context, there appears to be consensus that the gap in Canada is more of a "commercialization gap" or a "private sector funding gap" than a "discovery gap" or a "government funding gap".

Outside of R&D, business leaders use the term innovation to describe the very genuine need for their organizations to do things better at every level and in every area, including operations or sales. In this context, our view is that the real innovation gap is a "knowledge gap". This gap arises because most leaders, however experienced and competent, often have never learned how innovation happens and what prevents it, and, more critically, what their role is in improving innovation in their organization (Legrand, 2008; tinyurl.com/m5jues2).

As a result of this knowledge gap, leaders often default to making bold statements and may implement initiatives that appear simple and controllable such as an "innovation management system", which is simply an automated version of the old suggestion box. Sometimes, they invest in training in creativity or design thinking. The problem is that these initiatives never create sustainable change. A few isolated efforts can never identify and address the real obstacles to change and will always fail to create the impact necessary to shake up an organization's comfortable status quo. The desired results do not happen, employees become skeptical, and time needs to elapse before they can start again.

### **Closing the Innovation Gaps**

There will always be a need for science and technology R&D but, given the physiognomy of the modern economy, it does not make sense to devote 100% of available innovation investment dollars in this one area. According to Nesta (nesta.org.uk), an organization funded by the government of the United Kingdom and dedicated to understanding the role and impact of innova-

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tion in modern economies, traditional R&D represents less than 20% of the total innovativeness of a country (Nesta, 2009; tinyurl.com/mus8sw4).

Based on the current trends towards services in gross domestic product and employment, innovating in the service sector and service functions such as human resources or sales will make a much bigger difference to Canada's productivity and standard of living than only investing in science and technology R&D. Canada has tried the exclusive R&D investment approach for over 30 years and it still has not delivered the needed results. Continuing to follow the same path yet expect different results simply is not logical.

To address the knowledge gap and fuel greater innovation progress, Canada needs to start funding its own research in the processes and tools that allow organizations to innovate in all areas outside of the R&D department. It also needs to develop a measurement of the impact of innovation that is not solely reliant on R&D, discoveries, and inventions metrics such as patents or academic papers.

This recommendation follows a logic developed in particular by Vargo and Lusch (2008; tinyurl.com/mqt67yt), who use the field of marketing to describe the necessary transition from a goods-dominant logic to a service-dominant logic to develop processes and measure economic activities. Goods-dominant logic emerged during the industrial economy. In this logic, goods are the only focus and services are simply an add-on to goods and can be treated in the same way as goods. Service-dominant logic emerged over the past 20 years because of the growth of services in the economy. In this logic, services are considered intrinsically different from goods and require entirely different processes to understand and measure them.

If we apply the Vargo and Lusch theory to innovation, we can quickly identify that, in goods-dominant logic, an organization's proprietary knowledge and expertise form the start and the core of its innovation process. Researchers are usually located in a dark and secret corner of the organization, and the R&D department regularly produces new inventions or discoveries that are then produced and "pushed" to consumers, whether they want them or not. The growing field of open innovation is only an improvement of the old model where science still drives the innovation process and a few leaders make the product decisions, although it has opened the doors to external ideas. In service-domin-

ant logic, the customer or user is at both the start and the centre of the innovation process. This approach requires that every part of the organization works to satisfy the customers, one customer at a time. Current tensions between long-established organizational silos underscore how this logic stretches the industrial model of organization.

The most practical and promising advance in the area of innovation measurement is the "Innovation Index", which was developed by Nesta in 2009 and is currently in its third iteration. This index identifies seven factors that contribute to real innovation and identifies the current level of investment in each activity in the United Kingdom, as shown below (Nesta, 2012; tinyurl.com/krmh49l):

- 1. R&D: 13%
- 2. Design of products and services: 12%
- 3. Organizational improvement: 21%
- 4. Training and skills development: 21%
- 5. Software development: 18%
- 6. Market research & advertising: 10%
- 7. Other (copyright development, natural resources exploration, etc.): 5%

#### Why service innovation matters more now

Over the past 25 years, the focus on productivity and analytical thinking tools such as Six Sigma or Lean has undoubtedly made Canadian organizations more efficient, but Canada continues to lag behind other developed countries. These productivity tools have improved the industrial model and made it very efficient, but the problem is that the competitive environment has changed, and even the most efficient industrial organizations are struggling with the current speed of change. The most effective Six Sigma program is no longer the solution to reach the next level of productivity.

To improve overall productivity in Canada, and therefore the standard of living of Canadians, there is no alternative but to focus where it really matters: in the service sector and the service functions that represent more than 70% of the Canadian economy (Statistics Canada, 2013; tinyurl.com/k2lbpzn) There is little point in

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continuing to pretend that investments in R&D to support manufacturing, a sector that represents less than 10.5% of the country's economic output (Statistics Canada, 2013; tinyurl.com/k2lbpzn) will directly and substantially impact overall productivity.

To save and grow what is left of the Canadian manufacturing industry, the need must be addressed for innovation in all areas that can quickly improve the sector's performance, and not only in R&D. To improve the productivity of the service sector, which is necessary to improving overall productivity and the standard of living in Canada, the focus must be on service innovation because it is one of the most effective tools.

In addition, to improve the commercialization of Canadian inventions, commercialization must not be thought of as simply an adjunct to scientific discovery; it should be treated as what it really is, a complex problem that needs innovative thinking, not analytical or R&D thinking.

#### How innovation happens

Because there are no real scientific-based standards for innovation outside of R&D, solutions have proliferated. The problem is that concepts such as serendipity, chaos, design thinking, or creativity, despite all the ink spent to describe and promote them, are not sustainable innovation strategies in modern organizations. Innovation can only happen when individuals and teams apply an innovative-thinking process to a problem or an opportunity rather than the analytical-thinking process that has been most people's default because it is the only problem-solving process they learned in school. Individuals need to learn what innovative thinking is and how to apply it.

That said, it is also important to understand that organizational factors usually trump individual skills. The organization's environment has to be conducive to the success of innovation. Its leadership, culture, and organization practices must support individuals and teams in their efforts to innovate even if, in and of themselves, leadership, culture, and organizational practices alone do not make innovation happen. Without the right level of support from leaders as well as from the organization's culture, practices, and processes, even the most innovative individuals are not able to survive and help the organization.

Once an organization has both an innovation-conducive environment and individuals who can apply innovative thinking, where and how does it begin to

innovate? Organizations need to apply innovation in multiple areas (often simultaneously), not only in R&D. In a high-tech company, for example, there are opportunities to innovate in the business model, sales, human resources, information technology, customer experience, and in services that complement the company's products. A small startup company can innovate in its business model and can also innovate how to bring structure and rigour to the organization without killing its foundational innovation skills.

#### Recommendations

Organizations that genuinely want innovation must ask for it, create the right conditions, and identify and remove any obstacles. The first step is to ensure that all leaders understand how innovation really happens and can initiate and support it over the long run. The second step is to train individuals and managers in the rigorous methodology of innovative thinking. The third step is to focus on the culture. Contrary to popular belief, an innovative culture is not required; in fact, an "innovative culture" is an oxymoron given that the role of a culture is to defend the status quo. What is needed is a culture that supports innovation by offering the right level of changeability, risk-tolerance, diversity, learning, and openness.

Organizations must ensure that practices in areas such as information technology, human resources, or finance are not quietly killing innovation but instead support and encourage individuals and teams when they innovate. This is the hardest task because it asks professionals to change how they operate their area for the greater good of the organization. Why ask for crossfunctional innovation if human resources processes and evaluation systems in effect prevent it? Why ask for "new ideas that create value" if the budget process does not facilitate moving budgets from poorly performing projects to new and promising projects? Why generate great ideas if information technology is always going to be the all-powerful obstacle by asking for full specifications upfront?

It is important to understand how innovating works, how it differs from what was done in the past, and how it can be implemented.

*Identify and address complex problems* 

Service problems and opportunities are complex. With complex problems, uncertainties and ambiguities are an integral part of the issue and cannot be eliminated to reach an effective solution.

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The opposite of a complex problem is a complicated problem, where all ambiguities and uncertainties can be removed, and logic, experience, and expertise are usually enough to find a solution. In the industrial economy, most problems were complicated, except possibly those dealt with by the most senior leaders. It could be argued that today, most of our children have only been taught how to solve complicated problems, not complex problems. Most problems or opportunities are a combination of complex and complicated in various proportions. The ability to separately address the complex and the complicated parts of an issue is the key to effective performance today.

When an organization needs to solve a complex problem, it should accept the problem's inherent uncertainties and ambiguities and - before looking for solutions - identify the root causes and all the components of the problem. This is how innovative thinking works. It focuses on the problem until it is well understood, and only then looks for solutions. It is not uncommon when dealing with complex problems to spend up to 70% of the allotted time to understand the real issue. As shown in Table 1, innovative thinking is different from analytical thinking where the first, and often the only, focus is on developing a single solution as quickly as possible, as is usually taught in school.

**Table 1.** Analytical thinking vs. innovative thinking

Analytical thinking	Innovative thinking
Focus on the answer	Focus on the <i>question</i>
One best question	More than one possible question
"Just do it"	Stop and think
Eliminate ambiguity	Accept ambiguity and uncertainty
Jump to conclusions	Divergent and convergent thinking
A or B	A and B

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A second way to innovate in service is to change the business or organization model. Many business models today, especially in traditional businesses or industries, were inherited from the industrial economy but can no longer keep pace with the rate of change required in the knowledge and information economy. The elements defining each approach are identified in Table 2. The key is not to completely replace the organization's old model but to add new elements that allow the organization to address complex problems.

**Table 2.** Solving complex problems in the industrial economy vs. the knowledge economy

Knowledge economy
Top down and bottom up
Focus on thinking, then execution
Value within and across functions
Outcome driven
Customization
Consistent outcome
Innovation works best

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Finally, here are some practical steps that organization leaders can take to innovate more effectively (Legrand and Weiss, 2011; tinyurl.com/mj3agf3):

- 1. Understand the rigorous process of innovating in service
- 2. Ensure the key people in the organization, from the leaders down, understand and apply the innovating process
- 3. Align the culture by correcting elements that stifle innovation
- 4. Align the internal processes to your innovating objectives
- 5. Always start and end innovating with the customer
- 6. Keep working on the organization until innovating is "the way we work"

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#### Conclusion

Considering that service accounts for over 70% of Canada's economy today, innovating in service is a logical way to boost innovation performance. Leaders from all sectors need to become better informed about how to lead innovation successfully.

The time has come for governments, universities, and large organizations to acknowledge the value that service innovation can add to the competitiveness and growth of individual businesses and to Canada's overall productivity. Only when its importance is fully understood and leaders are prepared to invest in developing the knowledge and supporting resources required to encourage service innovation, will genuine increases in productivity be realized, thereby making Canada the competitive economy it needs to be, to sustain its enviable standard of living.

#### **About the Authors**

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