



CONESTOGA
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WHAT IS SYSTEM THINKING?

Canada is dealing with a productivity challenge. Our GDP per capita growth rate has been on a downward trajectory for over 40 years, reducing our competitiveness and affecting our standard of living. Real productivity, performance improvement, and sustainable competitiveness is elusive for many organizations. Yet, sustainable competitiveness is achievable. If we truly want to improve productivity, operational and financial performance, and realize a state of sustainable competitiveness in our organizations, a transformation in thinking and behaviour is required. System thinking is the way forward.

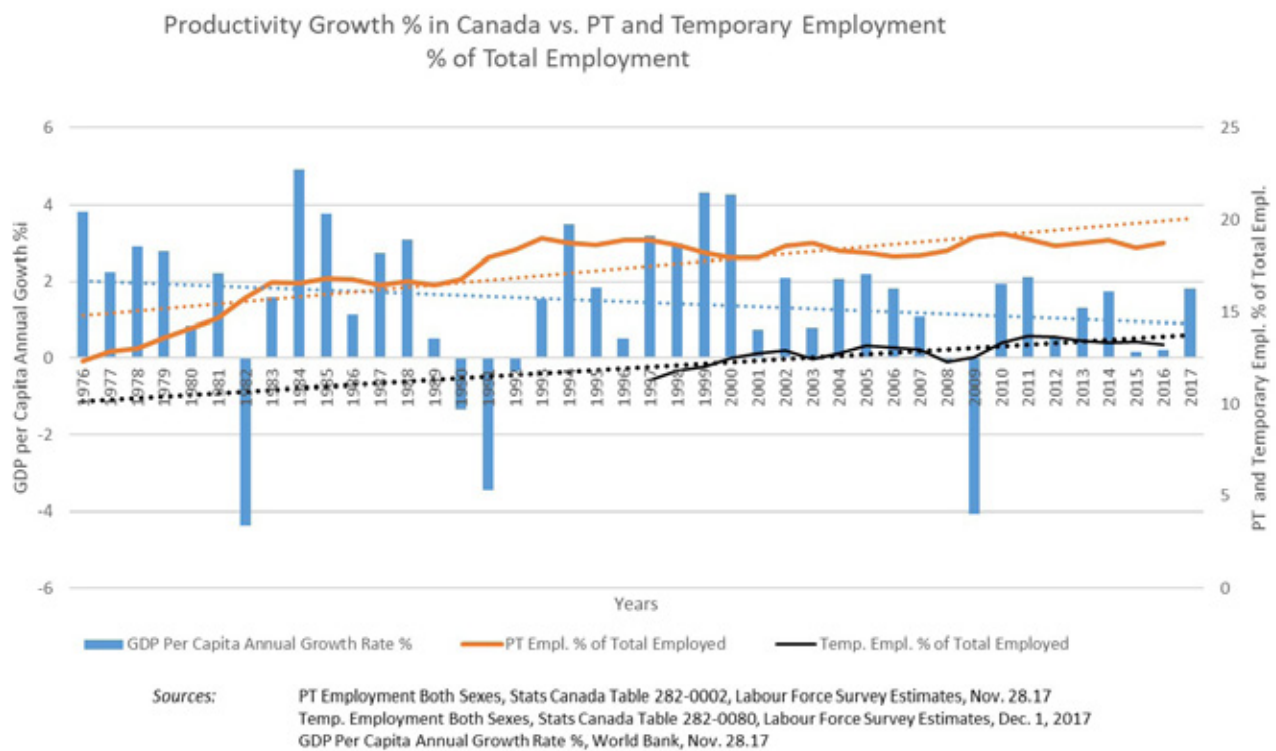
BENEFITS OF SYSTEM THINKING

- System thinking simplifies dynamically complex challenges, like improving productivity and performance
- It is a proven approach to improving customer value delivery
- System thinking is a proven approach to freeing up much needed labour and capacity for business growth
- System thinking identifies wasteful practices in your organization for elimination
- It is a proven approach to improving productivity, operational and financial performance
- System thinking provides a road map to sustainable competitiveness

WHY IS PRODUCTIVITY GROWTH DECLINING?

There are various factors contributing to declining productivity growth. There are international factors impacting productivity which are out of the control of organizations. There are business and policy factors that organizations, or collaborations of organizations can influence, but that takes time, and the degree to which your organization can influence these factors is limited at best.

That said, there are factors on which organizations can and must take action to improve productivity in their firm and supply chains. Such actions address the effective use of all resources including physical (buildings, equipment, land), human, and financial. It also requires addressing organizational culture, understanding variation, and understanding the process of innovative knowledge creation in your firm. Organizations can insulate themselves from the vagaries of the external environment while improving productivity and competitiveness through the application of system thinking.



INDIVIDUAL ORGANIZATIONS

For decades the conventional approach to improving productivity has relied on cost cutting, with labour the primary target. There is a belief by some that ‘labour is too expensive to do business in Ontario.’ Such belief, while unwarranted, focuses on cutting full time labour, while shifting toward part time and contract (temporary) labour. **In the end, cost cutting does not work. It is reactive and regressive.** Cost cutting ignores customers and what they value, and “the market punishes companies that don’t satisfy the market perception of value”.(Goldratt 1994) For that reason alone, cost cutting as the chosen approach to improve productivity is not sustainable. Today, small businesses in Canada are challenged by unprecedented labour shortages, with nearly 400,000 unfilled positions preventing them from growing their businesses. (Financial Post, 2018) When we cut people, we cut the very skills we need to deliver value to our customers!

1- Goldratt, E.M. It’s Not Luck, Great Barrington, MA, North River Press (1994)

2 - Ryan Mallough and Emilee Hayes, Special to Financial Post https://business.financialpost.com/entrepreneur/why-do-we-have-high-youth-unemployment-concurrent-with-a-national-labour-shortage?utm_campaign=magnet&utm_source=article_page&utm_medium=recommended_articles Oct. 11, 2018 Retrieved Feb 27, 2019

The growth in part time and precarious (temporary contract) employment is a false economy. While labour costs may be lower, real productivity falls. Employees in these categories are not valued for their contributions to the organization. In return, they withhold any productivity innovations they might otherwise offer. Part time and precariously employed workers will not commit to an organization that will not commit to them.

Today, investment in technology is regarded as the path to improved productivity and competitiveness. Investing in technology while necessary is not sufficient to address the challenge. Organizations have invested in technology for decades, yet falling productivity, operational and financial performance persists. Recognize also that many SME's do not have the human or financial capital to invest in technology. For many organizations, the challenge comes down to answering the following question. What is the appropriate technology to invest in, and where to start?

Cost cutting has not and does not work, and investment in technology while necessary is not sufficient to improve productivity and competitiveness. A transformation in thinking and behaviour is required!

SYSTEM THINKING

The reality is that many managers are unsure of where to start to improve productivity and the performance of their organizations. System thinking (also known as systems thinking) provides a structured, proven approach and road map to improved performance and sustainable competitiveness. System thinking is simultaneously a framework, a discipline, and a set of tools used to address dynamically complex situations. Our organizations, sectors, and global economy are dynamically complex in their nature and design.

System thinking transforms thinking and behaviours. It is applicable to any organization. Wherever a product or service is delivered to a customer through the interaction of multiple resources (people, equipment, materials, computer systems, etc.), system thinking can and should be applied. It has application across all sectors, public or private, including health care, education, government, manufacturing, financial services, logistics, distribution, warehousing, etc. System thinking is not cost cutting. **System thinking focuses on aligning and synchronizing all resources in an organization to improve customer value delivery. Focusing on improving customer value is proactive and progressive.** Customers pay for value, and every action the organization takes that does not create value is waste (cost).

System thinking focuses on understanding the interactions between and among system resources toward delivering customer value. How well or poorly resources interact and work together in delivering customer value determines system uniqueness and performance. If we want to improve system performance in delivering customer value, we must focus on improving the interaction of resources toward delivering that value. We must un-learn the conventional cost-based approach to managing our organizations. The reality is that we have been employing the cost approach for decades, while productivity, profits and competitiveness continues to falter. When effectively applied, the outcomes of system thinking include improved productivity, improved customer value delivery, improved system velocity and responsiveness, the elimination of wasteful activities, lower system costs, and improved operational and financial performance and competitiveness.

LEARNING SYSTEM THINKING

Unfortunately, system thinking is not taught in business, engineering, or accounting schools. As a result, most managers are unaware of it and its ability to drive system performance toward creating a competitive advantage. While our schools continue to teach tired, outdated, conventional management methods emphasizing profit maximization, cost reduction, efficiency and utilization, and employing techniques like overhead allocation to individual products, Canada's productivity and competitiveness continues to decline.

System thinking and its application is documented in the teachings and writing of a number of thought leaders. Such thought leaders include W. Edwards Deming, Eli Goldratt, Russel Ackoff, Genichi Taguchi, Peter Senge, and many others. Their teachings have been summarized in a white paper entitled, Addressing Canada's Productivity Challenge, Sustainable Competitiveness Through Integrative Supply Chain System Thinking. (Watson 2018) Scan the QR code provided to link to the paper.

SYSTEM THINKING APPLIED

System thinking can be learned. A proven tool used in the application of system thinking is value stream mapping (VSM). Together, system thinking and VSM help organizations identify the path to improved system performance and sustainable competitiveness. Both system thinking and value stream mapping are taught in the **Business Administration Supply Chain and Operations Management (SCOM)** program at Conestoga College. Applying system thinking, senior level students engage with organizations across all sectors, conducting value stream mapping projects in their firms. **Sixty-one VSM industry projects completed from Sept. 2017 to May 2021 resulted in a total financial impact of over \$178 million! System thinking works!** For details about value stream mapping and VSM projects at Conestoga, see 'What is Value Stream Mapping?' brochure.

If you would like to know more about how system thinking and value stream mapping could help transform your system's performance please contact us.

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