

---

## The Cost of Paper Bags

---

### Preface

Wondering why someone would reverse a green and lean policy **is not** the reason for this article. Many years ago, I wrote an article named "The True Costs of Paper" highlighting the various cost factors associated with employees printing documents versus using other means of documentation and information retrieval. In this article, using the following situation as an example, I will discuss the non-value-added (NVA) costs of using paper bags and impacts on [Stakeholders](#).

### The Situation

In April 2023, the Liquor Control Board of Ontario (LCBO) announced that it would begin phasing out the use of paper bags at the check-out counter. The expected reduction in the annual usage of over 135 million bags would divert approximately 2,665 tonnes (2,935 US tons) from landfills (or recycling facilities) and save over 185,000 trees.



For those of you who do not live in the Province of Ontario, let me explain what the LCBO is. With hundreds of retail outlets, the [LCBO](#) is a retail organization that people go to when they want to purchase spirits, beer, coolers and wines from many countries around the world as well as Canada. The LCBO is owned by the Province of Ontario and:

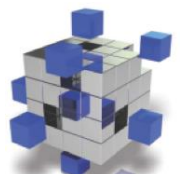
- LCBO profits go towards reducing the tax burden on Ontario's citizens. In 2023 that net profit was ~\$2.5 billion.
- The organization employs over 10,000 people and indirectly creates jobs for thousands more.
- It is one of the largest buyers of wine and spirits in the world.

Primary stakeholders would be:

- The taxpayers of Ontario.
- The employees of the LCBO and the people that supply indirect services.
- Product suppliers.
- Customers (retail and licensee) of the LCBO.

In a letter dated to the LCBO dated April 7, 2024, Ontario's Premier (head of provincial government) stated that he wants to reverse the reusable bag policy.

News video covering this announcement: [CBC](#) and [CTV](#)



## ***Cost of Paper Production & Transportation***

There is a substantial difference in the costs of production of paper versus plastic bags. I entered '[paper bag production pollution](#)' into Google's search engine and found that the manufacture of paper bags:

- Requires more fossil fuels to create than plastic bags and generates 70 times more greenhouse gas pollution.
- Generates 50 times more water pollutants than plastic bags.
- Requires four times more energy in the manufacturing process than plastic bags.

Due to the difference in weight, paper bags cost more in terms of fuel consumption (more greenhouse gas) to transport than the equivalent number of reusable plastic bags.

Note: I am not suggesting that single-use plastic bags be used! That's another subject all by itself.

## ***The Process and NVA of Getting Bags to the Cashier***

Let's look at what it takes to get the bags to the Cashier's till and beyond. NVA costs include labour and overhead and the management of human resources and risks.

### ***Inventory planning.***

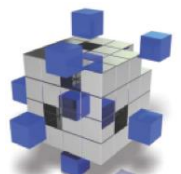
- There are several sizes of bags and five distribution centers. Someone at LCBO headquarters must plan how many bags to purchase and where to send the bags for distribution to the stores.
- Someone will need to keep track of the paper bag inventory at the store level and allow sufficient time for replenishment from the distribution centre to the store.

### ***Procurement***

- Due to the annual expense, the LCBO will likely need to have a procurement cycle known as a Request for Proposal (RFP). This will require several people to spend time creating the RFP document, contacting potential suppliers, reviewing the RFP responses from the suppliers, and negotiating contracts. Then senior management will need to review and authorize the awarded contract.
- Someone needs to create the purchase orders that authorize the supplier to ship the bags to the distribution centre.

## ***Cost Factors of Paper Bags at the Distribution Centre***

- The direct cost of the assorted sizes of bags.



- Delivery to the distribution centre.
- Receiving the product at the distribution centre.
- Putting the boxes of bags into inventory locations.
- The overhead of warehouse locations being used for inventory.
- Matching the supplier's invoice to the receiving documentation and then paying the supplier.

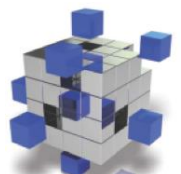
### *Cost Factors of Paper Bags at the Store Location*

- Picking the boxes of bags from the distribution centre location, putting them on a truck and creating the shipping documentation required.
- Transporting the boxes to the store locations.
- Receiving the boxes at the store.
- Putting the boxes of bags into inventory locations.
- The overhead of the store locations being used for inventory.
  - There is an additional issue with this during the busy seasons as many LCBO stores likely don't have a lot of space for inventory.
  - Retrieving the boxes of bags, opening them, and then stocking them at the Cashier's till.



### *Impact on Time*

- Paper bags increase the amount of time that the consumer will spend at the checkout.
  - Cashiers pack the paper bags with the consumer's product. This reduces the throughput efficiency of the cashier.
  - Given that many retailers have phased out both paper bags and non-reusable plastic bags, many Ontarians now have a surplus of reusable bags that are used for grocery shopping and other retail activities. I did a quick count in my car and have nine reusable bags of assorted sizes, shapes, and abilities to hold both volume and weight. I started using them for LCBO purchases many years ago.
- During the busy seasons (think about the week before New Year's Eve), there are lineups of people waiting to purchase their products. Consumers will wait longer in line during the busy times at the LCBO while cashiers get the bag, open it, and put the product into it.
- Faster throughput = happier customers and reduced labour cost of checkout transactions.



## Recycling the Paper Bags

One of the additional factors to be considered is that Ontario does have a recycling program for paper products and many people do recycle. That process requires that the consumer needs to put their bag into a recycling box (time and effort), the recycling box needs to be picked up (which would happen anyway for recycling glass and other products) and then the paper bag needs to be sorted out of the recycling material and put through a recycling process (additional time and, indirectly, taxpayer cost).

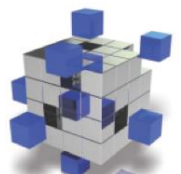
Once again, I did a Google search using '[paper recycling statistics Ontario](#)' for the search. There were a few interesting results.

- People also often do not fully understand the regulations regarding what products they can recycle, and which ones should not go into the recycling bin. Altogether, current statistics indicate that only about 30% of Ontario's waste gets recycled. Feb 22, 2024
- Recycling can also have negative environmental impacts. For example, the process of recycling paper requires the use of chemicals and substantial amounts of water and energy. Similarly, recycling plastic can release harmful pollutants into the air and water. Jul 12, 2023



I also found the Association of Ontario Municipalities 2023 '[Ontario Baseline Waste & Recycling Report](#)'. From page 24 of that report:

- Overall, the amount of blue box materials collected and marketed to recyclers by weight has been steadily declining from a high of 938,000 tonnes in 2006. *This decline is in part due to the material composition changes to the types of paper products and packaging we consume with a significant shift away from heavier materials like paper and glass to lighter weight plastics.*
- There is some good news regarding recycling in the [Environmental Science & Engineering](#) magazine. *'A new survey that tracks Canada's use of recycled content in paper packaging shows an average domestic recycled content rate of 80.2% for 2022. The average recycled content rate has steadily increased from 47% back in 1990, when the first survey launched, but the latest rate is a slight decline from the 2020 figure.'*



## *Summary*

Using paper, in any form, has impacts to efficiency, financial outcomes and the environment. *Lean Organizations Win* by reviewing, and reducing, their use of paper in any form.

For the sake of argument, let's say the **fully loaded** cost of the average bag at the LCBO (remembering there are several sizes) is somewhere between \$0.10 and \$0.50. The average usage per annum is 135 million. That's between \$13,500,000 and \$67,500,000 that will not be realized as profit for the Province of Ontario...unless they pass that cost onto the consumer in price hikes. That's a negative Stakeholder value in addition to the environmental impacts discussed. Those environmental issues will impact both current and future Stakeholders.

## *About the Author*

Ken Cowman's career has spanned 52 years with 11 of those in materials and operations management and more than 40 years as an continuous improvement and enterprise solutions project manager, educator, seminar leader, process re-engineering leader and management coach. The clients that he's worked with range from a small organization with twelve permanent staff to multi-nationals with divisions in several countries and thousands of employees.

He has had over 70 articles published in various magazines. Additional articles and videos can be found on the Emercomm website ([www.emercomm.com](http://www.emercomm.com))

