

EXECUTIVE SUMMARY

POS (Point-Of-Sale) machines and cashless transactions are an integral part of today's shopping experience. POS machines allow customers to swipe their cards, input the amount to be paid and pay electronically for a transaction within seconds after the transaction is sent for authorization. Alternatively, the account number can be typed in and following approval the customer receives and signs a receipt. In short, POS machines allow businesses to save costs and make transactions more efficient.

Statistics Canada lists about 2.4 million business locations in Canada with more than 900,000 business locations in Ontario alone. Considering the nature of today's business world, it is reasonable to assume that most of these businesses use POS machines for some day to day business transactions. Most POS machines generate paper receipts for the customer as well as the merchant. These receipts are generated in addition to the customized bills that may or may not be offered by businesses to their customers. This results in a large number of paper receipts being printed every day, most of which are not requested by customers.

Our business plan attempts to solve this inefficiency by placing the onus on the customer to request or deny a paper receipt for a POS transaction. For those customers who do not request a paper receipt, the receipt can be sent electronically to the email address embedded in the customer's money card (credit/debit). This would allow businesses all over the world to save on expensive thermal paper and reduce the amount of paper consumed for unnecessary paper receipts. By making some basic assumptions and using statistics available on number of businesses and paper usage, we estimate a potential cost savings of upto \$372 million per annum, besides saving 4 million trees and energy required to produce 342,000 tons of paper, in Canada alone. By extrapolating these numbers to businesses around the world which use the POS system, we estimate cost savings in the range of billions of dollars and a significant positive impact to forest conservation around the world.

STAKEHOLDER POWER/INTEREST ANALYSIS:

Stakeholder	Involvement in the value chain	Acceptance of the proposal
Customer	High influence in directing business operations. High interest in the way business is run	Withdrawal amongst certain sections (elderly/uneducated). Acceptance by the majority “green” customer base
Retail Chain owner	High influence in directing business operations. High interest in the way business is run	Acceptance courtesy the tremendous cost savings in billing paper
Financial Institutions (Credit Card company)	Monitor the financial transactions through various POSs	Satisfies their green initiatives
Technical POS services provider	Provide the required software development services	The business plan brings revenues through service charges

COST BENEFIT ANALYSIS

For the purpose of this analysis we are considering businesses in Canada with POS terminals which use thermal paper for printing card receipts. According to Industry Canada statistics, there are 2.4 million business locations in Canada at the moment. From these we assume that about 70% have at least one POS terminal. Thus the total number of POS systems in Canada is 1.7 million approximately.

One carton of thermal paper costs 32.95 CAD and contains 100 rolls. For the sake of simplicity, we assume that one roll can print 200 receipts and in a day a business uses 2 rolls of thermal paper. Hence in a year the number of rolls required by a business would be 730 which would approximately cost \$219 CAD. As mentioned above, the number of businesses in Canada for the sake of this calculation is 1.7 million. Hence the total number of rolls required per year in Canada would be 1.2 billion. Thus, the total savings from reducing paper roll consumption would be \$ 372 million CAD.

One ton of uncoated virgin paper requires 24 trees and a roll of thermal paper weighs 250 grams approximately. Hence the weight of 1.2 billion rolls would translate to 342,000 tons of paper which would require 8 million trees. Since most paper is recycled nowadays, we shall assume here that 50% of paper used for making thermal rolls comes from recycled paper. Therefore, we can save 4 million trees by avoiding thermal paper usage in POS terminals.

Benefits:

1. Cost savings of \$372 million Canadian which is 0.03% of the GDP for the financial year 2011
2. Protection of 4 million trees
3. Savings of energy required to produce 342,000 tons of paper

IMPLEMENTATION SEQUENCE

Customer Initialization → Setting email accounts → Software development → Feedback system

RISKS

1. Loss of customer base: Unavailability of a physical invoice/credit purchase receipt might discourage customers.
2. Acceptance: The proposed plan expects businesses to communicate the change in invoicing to the customer and liaise with the banks for e-billing.
3. New technologies: There is a risk from emerging technologies in banking that may render our proposal redundant.
4. Banks: The financial institutions can, for the reasons of “disclosure to the customer” force businesses to continue giving receipts of credit purchases to the customer.

MITIGATION PLANS

The risks that have been highlighted express concerns over the implementability of this idea and hence need proper mitigation plans directed towards all identified stakeholders. The biggest challenge is to communicate the advantages to stakeholders, since the proposed change may be opposed initially. To counter opposition, the following methods should be implemented to mitigate disapproval or pressure from other technologies.

1. Customers need to be made more aware about the merits of saving paper by stating hard facts. Numbers are more convincing but can create a bigger impact if an individual's positive contribution towards saving paper is conveyed appropriately.
2. Newer technologies such as Near Field Communication (NFC) in mobile devices might deter stakeholders such as financial institutions and retailers from buying this idea. Since this idea

requires no extra infrastructure and can be made compatible with existing POS systems unlike NFC, the cost benefits are higher and there is no risk in implementation.

3. Financial institutions such as banks might disapprove since they might believe that this idea may not contribute to their businesses other than adding to their green initiatives. However, these transactions give the institutions the opportunity to utilize the medium of e-mail to market their products and services much more successfully. Further they enable banks to move from a model of responsive CSR to strategic CSR, thus creating shared value for not only the environment but also their businesses and the customers in turn.

REFERENCES

1. *How are point-of-sale systems going mobile?* (2011). Retrieved from [www.howstuffworks.com: http://www.howstuffworks.com/point-of-sale-mobile.htm](http://www.howstuffworks.com/point-of-sale-mobile.htm)
2. *Retail Boss POS*. (2011). Retrieved from <http://www.retailbosspos.com/>
3. *Thermal Per Canada*. (2011). Retrieved from [http://www.thermalpapercanada.com: http://www.thermalpapercanada.com/product_p/t3000.htm](http://www.thermalpapercanada.com/product_p/t3000.htm)
4. Industry Canada. (2011, July). *Key small business statistics*. Retrieved from [http://www.ic.gc.ca: http://www.ic.gc.ca/eic/site/sbrp-rppe.nsf/vwapj/KSBS-PSRPE_July-Juillet2011_eng.pdf/\\$FILE/KSBS-PSRPE_July-Juillet2011_eng.pdf](http://www.ic.gc.ca: http://www.ic.gc.ca/eic/site/sbrp-rppe.nsf/vwapj/KSBS-PSRPE_July-Juillet2011_eng.pdf/$FILE/KSBS-PSRPE_July-Juillet2011_eng.pdf)
5. Trees Into Paper. (2011). *How much paper can be made from a tree?* Retrieved from <http://conservatree.org: http://conservatree.org/learn/EnviroIssues/TreeStats.shtml>