

Electronic Commerce

The original recommended practice was developed by the Government Finance Officers Association (GFOA). Some aspects of the practice have been revised by the Financial Management Capacity Building Committee (FMCBC) for use by Nova Scotia municipal governments. The original GFOA recommended practice is *Electronic Commerce*, approved by the GFOA Executive Board in 2008. Other sources are used, and are footnoted in the text.

Recommendation

The Government Finance Officers Association (GFOA) recommends that local governments investigate and adopt electronic payment methods suitable for their specific needs. Each municipality needs to evaluate the opportunities to make and receive electronic payments in the various areas, for example:

Disbursements:

- Payroll
- Intergovernmental payments
- Vendor payments

Collections:

- Internet transactions
- Automated phone systems
- Grant payment

In evaluating the costs and benefits of electronic payments, governments should consider the following factors:

- Bank fees
- Fraudulent or returned cheques
- Supply/administrative/ processing costs
- Statutory regulations
- Mail fees
- Impact on the availability of funds and interest earnings

GFOA also recommends that municipalities should implement various safeguards, for example:

- Strong internal and data processing controls on all programs.
- Written agreements establishing procedures and risks.
- Dual controls for the authorization of non-repetitive and repetitive transactions.
- Establishment and use of passwords for authorized personnel to initiate transactions.
- Implementation and periodic review of internal controls that address access control, confidentiality of data, integrity of data, and other information security issues as appropriate.

Purpose

Implementing electronic methods of payments and collections can provide a municipality with greater efficiency and reduced administration costs. Also, electronic commerce and cash management has the ability to increase the protection of information used in payment fraud, and can also reduce the occurrence of lost or stolen cheques. Furthermore, there can also be reduced administrative time lags for bill payment by taxpayers, reduced paperwork, and accelerated payments and availability of funds.

Background

In addition to the benefits that municipalities can experience as a result of implementing electronic methods of payments and collections, municipalities should consider electronic commerce and cash management because of taxpayer demand. Many consumers are moving away from paper, cash, and cheques, and towards electronic methods of payments and collections. Many municipalities throughout Canada are gravitating towards providing services online and electronically to taxpayers. Many municipalities have done this because of the efficiency and effectiveness of this method of payments and collections.

Considerations for Policy Development

When considering implementing electronic methods into a municipality's payment and collections procedures, certain aspects should be taken into consideration. Municipalities should first consider the costs associated with implementing online procedures and services. Many costs will be associated with the financial institutions, and the online services that it can provide. A municipality should essentially determine if the change is financially feasible and whether the taxpayers will accept the new system.

Municipalities should also consider the benefits associated with implementing an electronic system. For further details, see Appendix I. Furthermore, when municipalities are establishing an electronic system, they are engaging in the eventual removal of paper cheques. Municipalities should consider an electronic fund transfer system and electronic cheques. For further details, see *Appendix II*.

Municipalities should also consider internal control mechanisms to avoid theft and fraud. Not only should the municipality's finances be secured, but also the information that the online databases will hold should be protected. There are various internal control measures that municipalities may want to consider, such as quality assurance, payroll direct deposit controls, fraud prevention, authentication, electronic security, and proper authorization. For further details on these internal controls, see *Appendix III*.

In addition to the policy considerations that municipalities should examine before implementing an electronic system, municipalities may want to examine other municipalities for various ideas. One comprehensive example can be found with the City of Vancouver and their tax instalment payment plan (TIPP), which is an online tax payment system. For further information, see *Appendix IV*.

Appendices

Appendix I: Benefits to Electronic Commerce and Cash Management

Appendix II: Electronic Fund Transfer System and Electronic Cheques

Appendix III: Internal Controls Mechanisms

Appendix IV: Example of Electronic Cash Management – Tax Instalment Payment Plan

Appendix I: Benefits to Electronic Commerce

By providing either online or telephone access to tax payment or fee payment, benefits to the taxpayer and the municipality will result. Some of the benefits are convenience, municipal-wide access, timesaving, and availability.

Convenience

This type of system provides taxpayers with an alternative to visiting municipal locations to pay their taxes or various fees. Taxpayers can now access the government services from their home or office, and possibly even outside of typical office hours (depending on the hours of operations set by the municipality).

Municipal-Wide Access

Instead of taxpayers traveling to the municipal office to pay parking tickets or their property taxes, they can be paid online or over the telephone. This has the potential to be extremely beneficial to taxpayers who do not live near the locations available for these services, or for elderly or handicapped taxpayers.

Timesaving

Taxpayers will save a significant amount of time by using municipal government online or telephone payment systems. They will save travel time by not having to go to the actual municipal office, as well as the time spent waiting to process their payments.

Availability

Municipal governments can set up their systems to be accessible at different times. Most government online services are available beyond office hours and on weekends. This enhances the availability and convenience of taxpayers to pay their taxes and fees at their leisure. Also, enhanced availability can potentially reduce the amount of late tax and fee payments.¹

¹ Atlantic Canada On-Line. [Nova Scotia Personal Property Registry.](http://www.acol.ca/Services/PPR/NS/info-guide.html)
<http://www.acol.ca/Services/PPR/NS/info-guide.html>.

Appendix II: Electronic Fund Transfer System and Electronic Cheques

Electronic Fund Transfer

Electronic chequing uses the existing banking structure to its fullest potential by eliminating paper cheques. Electronic fund transfer and electronic chequing are synonymous. Electronic fund transfer is an extremely varied system, which may include paying bills through monthly bank account deductions.

There are some benefits to electronic funds transfer (EFT) system. It has the capability of:

- Eliminating the possibility of lost or stolen cheques
- Eliminating postage expense and reduce the risk of late payments
- Ensuring rapid, timely, and accurate tax payments
- Helps ensure security and confidentiality for all transactions
- Allowing taxpayers to schedule future payments.

Municipalities can determine the criteria surrounding the ability to pay through EFT. A municipality can establish criteria to limit or expand the amount of taxpayers eligible to pay through this mechanism. Specific stipulations may also be attached to paying taxes electronically. Municipalities can also determine which taxes are paid electronically, and those that are not.

Electronic payments can be designed in a manner for taxpayer to schedule their payments as early as 30 days in advance using payment warehousing. Payment warehousing is when a taxpayer sends their electronic payment instructions and their tax payment early, but the municipality does not process the payment until the date specified by the taxpayer (usually the due date of the payment).²

Electronic Cheques

Electronic cheques will only be of use to a municipality if they establish an online payment system. Electronic cheques can be an additional payment method for taxpayers available on the municipal online payment system. The 'cheque' may be a form that the taxpayer fills out, followed by authorizations required by the municipality.

Electronic cheques are essentially an automated withdrawal of funds from a taxpayer's bank account to pay taxes on a regular basis. Many governments that have electronic cheques established for taxpayers, and it involves sending money through electronic

² State of Florida Department of Revenue. [Electronic Payment Frequently Asked Questions \(FAQs\)](http://www.myflorida.com/dor/eservices/faqs/payment.html).
<http://www.myflorida.com/dor/eservices/faqs/payment.html>.

cheques and instantly credits the amount to their municipal account. The municipality should establish the method by which the cheques are received.

Not all taxpayers have to pay through electronic cheques, but they can choose to add the feature to their online municipal account. This provides them with the option to pay directly from their bank account. A taxpayer must select the option of electronic cheque because only authorized users will have access to electronic cheques. Municipalities can also establish limits the cheque amount.³

³ BC Online. Electronic Cheque. http://www.bconline.gov.bc.ca/about_echeque.html.

Appendix III: Internal Controls Mechanisms

Depending on what electronic tools municipalities intend on implementing, different internal controls should be implemented. However, some internal controls are applicable to all scenarios. For example, security and authenticity measures can be applied to most electronic commerce and cash management situations. However, it is important to decipher which internal control mechanisms are needed for the municipality.

Quality Assurance

Quality can be assured by the proper training of staff and management. Training should include the techniques necessary to develop and implement quality improvement initiatives, data collection methodologies, evaluation, and analysis tools.⁴

Payroll Direct Deposit

A municipality may also use electronic systems for internal payments and transactions. A common implementation is of cash management electronically is payroll and direct deposit for municipal employees. Direct deposit is desirable for municipalities because it reduces administrative costs and enhances efficiency because the reduction of the traditional paper system of payroll. When any new payroll mechanism is implemented, proper internal controls must be instituted to ensure that the proper salary and pay reaches the employees, and that theft and fraud are avoided. Some internal controls that should be considered are the separation of duties, accountability, authorization, and approval, and security of assets.

- Segregation of Duties
 - Different people should perform key payroll duties. Employees should not process or approve actions affecting their own pay.
 - Different people should perform the following duties:
 - Prepare and update online payroll and personnel data
 - Approve online payroll actions
 - Review monthly payroll expense reports
 - Review and reconcile financial records on a monthly basis
 - Distribute the payroll
- Consequences should also exist if the duties are not separated. If municipalities do not institute consequences, the following may occur:
 - Unauthorized payments made to non-existent employees

⁴ Department of Service Nova Scotia and Municipal Relations. Business Plan 2005/2006. Halifax, NS: Province of Nova Scotia. April, 2005.
http://www.gov.ns.ca/snsmr/pdf/about/SNSMR_2005_06_Dept_BusinessPlan.pdf

- Unauthorized payroll transactions processed
- Improper changes made to payroll files, personnel documents
- Misappropriation of funds.
- Accountability, Authorization, and Approval
 - Policies should be developed indicating which employees have the specific responsibilities of handling payroll. Accountability is reached when mechanisms are put in place to monitor these actions and ensure that the policies are followed. This can be done by:
 - Periodically reviewing and updating signature authorizations
 - Obtaining pre-approval for changes made to timekeeping records
 - Reviewing attendance records for accuracy and compliance to policy
 - Reconciling ledgers monthly for accuracy of recorded transactions
 - Municipalities should also inform their employees associated with payroll what tasks they are unauthorized to perform.
- Security of Assets
 - It is important to secure employee resources and payroll cheques. Access should also be restricted to personnel records.
 - Notify payees of unclaimed statements
 - Keep private and sensitive information secured.⁵

Fraud Prevention

Fraud prevention is extremely important to consider when implementing electronic commerce and cash management procedures in a municipality. The following are a few fraud prevention mechanisms that can be considered:

- Computer network security
- IDs and passwords for authorized personnel
- Account reconciliations from the bank
- Periodic review of internal controls
- Dollar limits for authorized personnel
- Dual controls for non-repetitive transactions
- Cheque imaging for account reconciliation⁶

⁵ University of California, San Diego. "Internal Control Practices: Payroll." [UCSD Blink. http://blink.ucsd.edu/Blink/External/Topics/Policy/0,1162,17303,00.html](http://blink.ucsd.edu/Blink/External/Topics/Policy/0,1162,17303,00.html).

⁶ Nelson, Lori. 2004 Survey – Cash Management Technology in State and Local Governments. Government Finance Officers Association Annual Conference. June 27, 2005.

Municipalities need to implement internal controls when developing an electronic cash management system. Any new cash management system is susceptible to fraud and theft, and municipalities must take precautions to prevent such negative effects. Two key components that are necessary in an electronic cash management system are security measures and proper authorization.

Improving Authentication

The success of a municipal online payment mechanism will depend on the security and confidentiality of the system. Specific security technologies should be created to establish the required level of trust. For transactions that require higher levels of identity than username/password credentials, digital technologies are necessary. There are various electronic security services available to provide verification for the user accessing their account. These services provide greater authenticity to the security system, which can enhance the success of the municipal online payment system.⁷

Electronic Security

It is important for electronic security measures to be taken to ensure confidentiality and that information is not lost. Electronic security measures are necessary when implementing electronic cash management programs. The system must be free from outside hacking and infiltration. This can help prevent fraud and theft. Not only is monetary theft a concern, but also identity theft. Since taxpayer's information will be in the municipal database, hackers could potentially steal their personal information, which could easily result in identity theft.

Electronic security measure companies are readily available for municipalities to access in order to protect the taxpayer's information as well as enhance the security of the municipality's website. These security systems also enhance the legitimacy of a municipality's website and will provide taxpayers with greater security when accessing their information and paying their taxes. By increasing the security of the electronic services, the program may become more successful.

⁷ Department of Service Nova Scotia and Municipal Relations. Business Plan 2005/2006. Halifax, NS: Province of Nova Scotia. April, 2005.
http://www.gov.ns.ca/snsmr/pdf/about/SNSMR_2005_06_Dept_BusinessPlan.pdf

Proper Authorization of Municipality and Taxpayer

Municipalities must ensure that those who access the data will be limited, thus reducing the contact with the confidential information. The less people that have access to the information and the money, the greater the security will be to the taxpayer.

For example, Service Nova Scotia and Municipal Relations (SNSMR) has developed a program for internal collections of various provincial departments. SNSMR's program involves electronic deposits of various departments' debtor's payments. SNSMR deals directly with the banks, which eliminates the need for additional people to handle the cash. If a cheque bounces, the bank notifies SNSMR via email, and SNSMR contacts the debtor. The government has less contact with cash, which enhances security by allowing less people to have contact with the deposits.

Appendix IV: Example of Electronic Cash Management – Tax Instalment Payment Plan

Many municipal governments throughout Canada have introduced TIPP. TIPP is a monthly tax instalment payment plan that allows property and business owners to make consecutive monthly payments for taxes, rather than single annual payments. This is an automated program that taxpayers establish with the municipal government, and it automatically withdraws payments.

Payments are made on a specified day of each month by automatic withdrawal from an account with chequing privileges at a financial institution. The number of instalment periods can be chosen either by the municipality or the taxpayer. Instalment plans can vary. For example, property tax instalment periods can vary between 7 and 12 months, and business tax periods can vary between 6 and 10 months.

The monthly payment is typically calculated by dividing the previous year's tax levy by the number of instalments chosen for the calendar year plus any applicable charges that the municipality may add. At the time of the annual tax billing, taxpayers will be notified of the total amount of instalments paid to date and the calculation of the new instalment amounts for the remaining payments in that year.

For further details on this payment system, the City of Vancouver has implemented a comprehensive online tax payment plan. The following links can provide further details on Vancouver's TIPP system.

<http://vancouver.ca/corpsvcs/treasury/tipp/index.htm>

<http://vancouver.ca/corpsvcs/treasury/tipp/join.htm>

<http://vancouver.ca/payandpurchase.htm>

<http://vancouver.ca/corpsvcs/treasury/search/>

<http://vancouver.ca/corpsvcs/treasury/paumentoptions.htm>

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- City of Vancouver. Corporate Services Group Property Tax – Tax Instalment Pre-Payment Plan. <http://vancouver.ca/corpsvcs/treasury/tipp/index.htm>.
- City of Vancouver. Corporate Services Group Property Tax – Tax Instalment Pre Payment Plan (TIPP). <http://vancouver.ca/corpsvcs/treasury/tipp/join.htm>.
- City of Vancouver. Pay and Purchase Online. <http://vancouver.ca/payandpurchase.htm>.
- City of Vancouver. Corporate Services Group Property Tax – Tax Search.
<http://vancouver.ca/corpsvcs/treasury/search/>.
- City of Vancouver. Corporate Services Group Property Tax – Payment Options.
<http://vancouver.ca/corpsvcs/treasury/paumentoptions.htm>.
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Halifax, NS: Province of Nova Scotia. April, 2005.
http://www.gov.ns.ca/snsmr/pdf/about/SNSMR_2005_06_Dept_BusinessPlan.pdf.
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<http://blink.ucsd.edu/Blink/External/Topics/Policy/0,1162,17303,00.html>.