Information Technology Service Delivery Review

Final Report

November 17, 2021

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Executive Summary

1.0 Executive Summary

1.1. Background

The Municipality of Central Huron (the "Municipality") hired Perry Group Consulting ("Perry Group") to perform an Information Technology Service Delivery Review (ITSD). The key outcomes of the review were identified as:

- Improve customer service and accessibility for residents.
- Maximize operational efficiency.
- Integrate systems and leverage data points to increase decision-making accuracy.
- Minimize data entry, process duplication, and hard copy documentation; and
- Maintain long-term cost sustainability.

Perry Group consultants worked on the project with these key outcomes as the ultimate goals for the Municipality. The recommendations were developed to align with these outcomes in the long run.

1.2. Opportunities

Technology has changed the way we do business. Our customers are familiar with many day-to-day services that are performed online from anywhere at any time. Services that required face-to-face interactions in the past are now done from the comfort of home, at any time of the day. Booking a vacation, depositing a cheque, renewing a license plate or watching a movie are common services that our customers do online today.

During the pandemic, the use of online services has surged. This is an opportunity for Central Huron. This is the right time to introduce more digital and modern service delivery to its residents.

Today, over 92% of Ontarians are online[1] and 88% of people across Canada bank online. This is a valuable indicator – if this many people are willing to bank online, it is reasonable to expect that they are also willing to transact with their municipality in the same way.

[1] https://www150.statcan.gc.ca/n1/daily-quotidien/191029/dq191029a-cansim-eng.htm

1.3. High-Level Recommendations

The key recommendations of this IT Service Delivery Review (ITSDR) are aligned with improving operational efficiencies and customer service.

Business Systems: It is recommended that the Municipality look for an integrated municipal ERP (Enterprise Resource Planning) system that is capable of automating multiple key business areas, e.g., Finance, Tax, Permitting, Asset and Work Management, all in one system.

Technology Governance: Central Huron should implement a governance structure – including an IT Steering Committee – to drive the digitization program forward. It is recommended that the Senior Management Team (SMT) be the IT Steering Committee.

Online Self-Service: Implement online services to citizens via the corporate website. The focus should be to move over-the-counter services to the web channel as much as possible. In order to provide online services, the back-office process should be automated with appropriate business systems.

Process Improvement: A true process improvement is realized through the end-to-end digitization of an optimized process. Business processes should be reviewed and optimized prior to automation. It is important to understand the concept of end-to-end business processes. A public-facing business process starts with a customer request and includes all steps within the Municipality as well as the participation from external parties to the point where the customer is provided with what they requested. The Municipality should develop the necessary skills to perform business process optimization exercises.

Improve Technology Infrastructure and Security: Multiple infrastructure and security improvements have been recommended. Some of the highlights are to document the Disaster Recovery Plan, perform a vulnerability scan and implement an organization-wide annual information security awareness training program.

1.4. Implementation of the ITSDR Recommendations

In order to implement the recommendations, the Municipality needs to increase the technology investment.

It is evident that municipalities who spend between 2.5% – 4.5% of their annual operating budget on technology are more progressive in their customer services and internal efficiencies. A gradual increase of technology funding is recommended as a key success factor for the implementation of the recommendations.

The consultants also propose that an internal IT resource be hired to manage and lead the technology implementations in the Municipality.

1.5. Benefits

Investing in technology provides multiple benefits to the Municipality. Here are the key benefits:

1. **Enables excellent customer service**: Digital channel provides convenience to residents – anytime, anywhere.
2. **Reduces the service delivery cost**: Online service cost is lower than over-the-counter or over-the-phone.
3. **Improves customer engagement**: Social media, online surveys, virtual meetings, etc.
4. **Improves the service delivery timelines**: Better turnaround times due to automation; less duplicate data entry due to integrated systems.
5. **Addresses resident concerns in a timely manner**: Automated status updates to applications, concerns, complaints.
6. **Helps the environment**: Paperless process reduces the amount of paper (e.g. tax bills).
7. **Creates capacity**: Automation reduces the need for manual processing by staff.
8. **Increases transparency**: Digitization allows the Municipality to collect and share data with public, Council and management.
9. **Reduces the number of complaints received by Council**: Digital business processes can provide automated status updates to customers (e.g., Planning applications, property complaints, snow issues).
10. **Helps make informed decisions**: Data analytics allow Council and management to make decisions based on evidence, data and trends.
11. **Increases the accessibility and availability of services**: Driving to a municipal office is not required; out-of-town/seasonal workers/residents/visitors are served.

The recommendations also directly support the Corporate Strategic Priorities identified in the Corporate Strategy:

- Strong Governance
  - Sustain operational excellence and financial discipline.
- Economic Development
  - Provide the gold standard of service to investment prospects.
  - Develop a strong web presence.
- Environmental Stewardship

    - Demonstrate leadership by ensuring municipal operations and services are carried out in a sustainable manner.
- Improved Infrastructure
    - Create a comprehensive database of municipal infrastructure and identify needs.
- Utilization of Facilities
    - Improve marketing of all municipally-owned facilities.
- Communication/Community Involvement
    - Strengthen the Municipality's ability to anticipate issues and prepare timely information.
    - Continuously improve the process by which citizens can connect with Council and staff.
    - Improve dialogue with citizens by boosting Council and staff awareness about what is taking place across the organization.

In summary, the ITSDR recommendations will allow Central Huron to maximize the use of technology, improve service and the customer experience and increase internal efficiencies in a sustainable manner.

Introduction

2.0 Introduction

The Municipality of Central Huron hired Perry Group Consulting to perform an ITSDR. The Municipality has recognized the value of technology and was looking for an experienced municipal IT consulting company to perform the ITSDR.

Perry Group has conducted similar work for more than 130 Canadian municipalities. All our consultants are also former senior municipal IT leaders.

2.1. Key Outcomes

The Request for Proposal (RFP) has identified the following key outcomes for the ITSD:

- Improve customer service and accessibility for residents.
- Maximize operational efficiency.
- Integrate systems and leverage data points to increase decision-making accuracy.
- Minimize data entry, process duplication, and hard copy documentation; and
- Maintain long-term cost sustainability.

The service review was conducted with the above objectives in mind. The consultants have aligned the ITSDR recommendations with the above outcomes of the Municipality. Importance of Technology to Municipalities

Municipalities are faced with significant challenges to stretch resources to deliver high-quality customer service that meets the expectations of the modern citizen, to manage and sustain new and aging assets and effectively engage citizens in decisions related to the building of the community.

Municipalities face several pressures as they embark on digital and modernization strategies to meet their communities' needs and requirements.

2.2. Pressure on Core Services

All departments are reliant on core corporate functions but financial processes in particular, are critical business processes in discharging their responsibilities and impacting others.

Many manual processes inhibit the Municipality's departments' ability to move at the speed they need, while balancing corporate controls. These core functions, used by all Municipality departments, must be efficient, effective and operate in real-time if the Municipality is to be successful.

Increasingly, municipalities across the world and here in Ontario are turning to technology as a means of addressing these challenges and seeing positive results.

Threats and opportunities include:

- Delivering customer service that meets expectations.
    - With further restrictions from COVID-19, there is a need to ensure that customers can transact with the Municipality through online services. This means the Municipality must change the way it is delivering service to meet the needs of its residents who, especially now, use online services as part of their day-to-day routine.
- Stretching scarce resources.
    - Resources are scarce in municipalities, as is funding. It has been proven that municipalities that utilize integrated systems – rather than manually keying in data – are able to utilize staff more efficiently to work on more value-added activities. The value of integrating systems is that there is "one version of the truth". In other words, there is only one place data is entered and the system does the linkages between programs. Having good data is valuable to any organization, especially municipalities that manage many lines of business.
- Doing more with less.
    - Enabling mobility is a valuable step in moving toward modernization. By deploying, for example, mobile building inspections software and enabling online inspection booking, the Municipality would see increased productivity of inspectors. Other municipalities have seen cost savings each year by enabling mobility in areas such as Building, Fire and Asset Management. Organizations that have implemented work management systems with mobile capabilities have seen a significant increase in productivity, in some cases seeing crews resolving up to 60% more work orders through supporting technologies.
- Using data to optimize services.
    - Municipalities are seeing savings using route optimizing technologies (as used by UPS and FedEx) to optimize patrols, inspections, and garbage collection routes. Integration of systems is a key component in being able to optimize services through data.
- COVID-19 and other infectious viruses.
    - Municipalities are working remotely and streaming Council meetings rather than having face-to-face interactions due to the changes thrust on them by COVID-19. Some municipalities are adopting this model as a permanent way of doing business, and this requires availability to broadband services that allow residents and staff to interact effectively and seamlessly. There will be more pressure on municipalities to implement solutions quickly and offer online services.

These are some examples, but new technology opportunities appear daily, and the speed at which new innovations arrive is accelerating. Municipalities need to be well positioned to evaluate and implement those innovations that can add value.

Being an organization that can react and embrace new technologies as they become available, to deliver improved and evermore cost-effective services, is advantageous. Adaptation should become a core competency for any high functioning municipal organization.

2.3. Responding to Changed Customer Expectations

Many municipalities are rightly considering moving services online because customer expectations have changed. Not only has COVID reduced the desire for personal interactions and shown how offering services digitally can work, but the reality is also that many citizens today rely on their devices as a way of life.

We have all moved from the situation 25 years ago – where booking a flight was so complex, you needed a travel agent to do it for you – to a world in which you can book your own flight with a few taps on your smartphone from anywhere and at any time.

Think of all the service industries and about how technology/digital has changed them:

- Finance – Online and smartphone banking, online trading.
- Media – Netflix, YouTube, Disney+, Prime, CBC Gem, online news.
- Travel – Airbnb, Expedia, aircanada.com.
- Retail – Amazon, Indigo, beer and wine direct, Skip the Dishes.
- Transportation – Uber, Lyft.
- Insurance – Compare and buy insurance online, report a claim online.
- Exercise – Online classes.
- Education – Online school, remote tutoring.
- Health – Telehealth, virtual medical appointments, online therapies.

Unquestionably, we are in the *smartphone and internet era* and this has changed customers' expectations about what service looks like today. Delivering online has become *the way* that services are delivered in the 21st century.

A common sight at the sports fields is many hockey/soccer parents sitting on the sidelines, registering for programs, booking appointments and hotels and ordering dinner, plus responding to several emails, all while their children are involved in a 45-minute practice – a very efficient way of getting things done!

Governments too are responding to these changed expectations and are rapidly moving services online. Think about the online services that ServiceOntario offers for example, allowing customers to renew health cards or driver's licenses, get their vehicle sticker or fishing license, all while in your PJs using a tablet on the sofa on a Saturday night.

Today, over 92% of Ontarians have access to the internet at home, 88% of Canadians bank online, 76% have smartphones. So, introducing online services is not for the minority – it is for the majority.

It is important to note that, even when the Municipality does introduce online services, this does not mean it should stop offering services via existing methods or channels. Customers should still be able to call or drop into municipal offices to carry out a transaction, to seek advice, submit an application or pay a bill. The introduction of digital services can be offered as an additional option that customers can choose – and one we are certain many will choose because of its convenience and ease of use.

2.4. A Vision for Online Services

In response to these changed expectations, the following section illustrates a more online-enabled set of services that the Municipality could offer.

In order to embrace the online opportunities, interacting with the Municipality needs to be easy, simple, straightforward, and designed around the convenience for customers and staff alike.

On her way to work, Mary witnesses a minor car accident. A stop sign has been knocked over.

Mary pulls out her smartphone, takes a photo of the scene and uses an app to notify the Municipality of the problem. The request is received, automatically categorized, located and recorded in the Municipality's Work Management System.

The Work Management System automatically dispatches the request to a crew in the area. The crew receives the request on a laptop in their vehicle. They proceed to the site and repair the stop sign. They track the time taken to fix the problem and input the labour, equipment and inventory used to carry out the repair and close the work order.

Mary immediately receives a notification on her smartphone that the issue has been resolved. On the way home from work, as she passes the scene of the morning's accident, Mary feels reassured that the Municipality is working hard and smart to keep citizens safe.

In the background, integrated technologies such as telecommunications, networks, mobile devices and business solutions (e.g., Service Request software, Work Management, GIS, and Finance systems) are working in concert to allow the Municipality to offer simple access to services, and to alert and provide field staff with the information (asset records, maps and drawings) they need to fulfill the work order. Processes are designed to make the end-to-end process simple to interact with for customers and easy for staff to administer.

Today, at the Municipality, field staff manually record information and go back to the office and pass it off to administrative staff to enter into a system or a file folder. The introduction of mobile devices connected with systems used by office and customer service staff would eliminate this manual work and reduce delays caused by hand-offs. It would also reduce data entry errors and provide up-to-date information for managers and supervisors.

Jane has just moved into a new home in the Municipality. She calls to inquire about setting up her tax payments via pre-authorized payment.

The staff member directs Jane to the sign-up available on the Municipality's website, shows her other services that she can access online, and asks "Is there anything else I can help you with?". Jane proceeds to book her youngest child, Rachel, into dance lessons, finds out when her garbage collection day is and where she can pick up a new recycling bin, and arranges for a burn permit for her family (who are visiting from out of Municipality to help with the move) – all in the one call.

Enabling staff to handle multiple transactions from different departments, reducing the number of times Jane has to call the Municipality and saving staff time, does not happen by accident. It must be planned, processes must be designed, and systems implemented and integrated to allow agents to provide answers to commonly asked questions and to route requests to the appropriate back-office team, as needed.

Marsha lives in Toronto and is building a new home in Central Huron.

It's difficult for her to get up to the Municipality, so she submits her permit application online, pays her fees and submits the drawings. A few adjustments are required by the CBO and Marsha has her architect make the changes and submit the revised documents online.

With some key work done on site, Marsha books an inspection of the work. The building inspector visits the site and uses their tablet to record the results of the inspection. The inspection passes, Marsha and her contractor are notified by email of the outcome of the inspection and work on site continues.

With each interaction, customers are offered choices about how to interact with the Municipality. Each interaction leaves a lasting impression of how effective the Municipality is.

These are not dreaming of a Jetson's future.

Real municipalities are delivering their services *in this way today*, and the municipality doesn't need to be large to do so.

For instance, citizens in Grey Highlands, North Middlesex, and St. Mary's can today submit and track building permits and drawings online. Building inspectors in those communities use mobile technology to help them complete their inspections.

In some municipalities, people can report a sign down or pothole via smartphone, can search and review planning applications and associated drawings, can generate their own tax certificate online, or get a marriage license.

Communities throughout Ontario are increasingly using technology in various ways to make customer service simple and cost-effective – and small municipalities, nimble as they are, can often implement these solutions much faster than their larger counterparts.

2.5. Service Delivery in Multiple Ways – Encouraging Digital Adoption

The Municipality should continue to offer all services across all channels – face-to-face, phone and digital – so those who don't wish to use digital channels, won't be forced to.

Nonetheless, it is worth noting that the most recent information available from Statistics Canada for internet penetration in Ontario (from 2018) identified that 92% of households in Ontario had access to the internet. 71% of seniors were using the internet in 2018 compared to 48% in 2012.

It is reasonable to assume that today, in 2021, these numbers are higher. In addition to home-based internet (according to the Canadian Radio and Telecommunications Committee, CRTC) over 73% of Canadians had a smartphone in 2015. According to a Media Technology Monitor Report in 2016, "74 per cent of people aged 65 and older were using the internet regularly". So, the vast majority of citizens have access, and likely a willingness, to use digital channels offered by the Municipality.

For Central Huron, there is a real cost imperative to encouraging the adoption of digital channels. Although there has been limited research in this area in Canada, some studies have examined municipal transaction costs across the primary customer service channels.

The table below indicates average costs of local government service delivery modes taken from research in the UK, Norway and Canada.

Channel	Cost per Transaction (Service Canada)
Web / Online	$0.10
Phone	$4.00
Face-to-Face	$6.50

Figure 1: Transaction Cost Comparison Across Service Channels

Reference: Anywhere, Anytime, Any Device: Innovations in Public Sector Self-Service Delivery Research Report by Kenneth Kernaghan Brock University 2012

The results are consistent in their message: online transactions cost a fraction of phone or face-to-face transactions. Notably, from one study in the UK, postal-based transactions (that the Municipality uses for some of its services) are the most expensive transactions.

Thus, implementing online services and encouraging their adoption is an important way for the Municipality to reduce staff time processing requests and overall transaction costs.

3.0 Project Approach

The following chart shows the basic steps in the approach taken by Perry Group.

- Meet with Project Sponsor and Team to clarify project scope
- Gather background documentation
- Review and analyze

- Conduct all-staff survey
- Apply **MTM** and **MOSA**
- Conduct department interviews
- Identify findings of current state

- Identify and prioritize strategic directions
- Develop recommendations
- Review recommendations

- Summarize recommendations and implementation plan
- Prepare and deliver final report

MTM: Municipal Technology Model; **MOSA**: Municipal Online Services Assessment

The majority of time was spent with staff to understand the current status. Feedback was collected directly from staff through a variety of methods.

An online survey was distributed to all staff providing the means for feedback, comments and staff assessment. Key findings from the survey were used to inform the current state assessment and the future needs recommendations. Further details on the survey results can be found in the Staff Survey Results section.

Individual meetings were conducted with the Central Huron IT team (Finance team) in order to understand the technology environment. The external service provider was also interviewed.

Departmental interviews were conducted with the Chief Administrative Office (CAO), and representatives from Clerks, Planning and Development, Fire, Public Works, Finance, and Parks and Recreation. An interview guide was provided ahead of time providing the opportunity for discussion among the teams as well as a facilitated discussion with the consultants. These discussions provided much of the information contained in this Report.

The consultants used the MOSA (Municipal Online Services Assessment) and the MTM (Municipal Technology Model) – both developed by Perry Group over the last decade with over 100 municipalities – to assess the current online services and the technology maturity levels. See further details about the MOSA and MTM assessments later in this document.

A financial analysis was conducted to understand the investment in technology compared to total expenditure of the Municipality. The budget numbers were compared with industry benchmarks. Details of the financial assessment are available in the Financial Analysis section.

The consultants also conducted an IT Skills Assessment followed by an assessment of the IT Governance and IT Service Management. The 3rd party service provider was interviewed and their services were reviewed as well. The consultants then performed an IT Risk and Vulnerability Assessment to identify any potential security-related risks of the technology environment.

Based on the inputs from all sources above, the consultants prepared a high-level current state assessment and high-level recommendations.

The high-level information was shared with the project sponsor (Treasurer of the Municipality), the CAO and SMT. After the review of high-level current state, the consultants collaboratively developed a set of recommendations with key stakeholders at the Municipality followed by a presentation to SMT, and then proceeded to prepare a draft of this Report.

The draft Report was shared with the project team for review and input. Based on the review feedback, the final ITSDR recommendations were prepared and shared with the Municipality's SMT.

Current State Assessment

4.0 Current State Assessment

Before developing any future looking strategy, it is important to take stock of the current situation.

This section describes the current state of the Municipality's technology systems, and the Municipality's current approach to managing its technology.

It summarizes the consulting team's assessment and observations.

4.1. Key Positives – What's Working Well?

4.1.1. Doing Well with the Available Budget

The Municipality's IT budget is comparatively low balanced against other similar organizations.

Details of the financial analysis is available in Financial Analysis section. The Municipality has implemented a reasonable IT environment with the low budget, therefore, the Municipality is receiving the value for the current IT investment. This is a positive situation.

This does not mean, however, that Central Huron can continue with the same approach.

4.1.2. Website

The Municipality has implemented a new website.

The modern look and feel and the ability to provide more and more online services is enabled through this new investment.

The current website is provided by a reputed municipal web service provider. The platform is rich with features that can help move the municipal services to the customer for self-service.

4.1.3. ADP Implementation with Self-Service

The implementation of the ADP payroll system has utilized the employee self-service feature.

Central Huron is ahead of many other municipalities in digitizing the time and attendance management using ADP. ADP is an industry-recognized business system that is used by many private and public sector organizations world-wide.

4.1.4. Open for Shared Services, Shared Resources and Out-Sourcing

There are multiple examples within Central Huron that shows the willingness of the Municipality to share services and staff with other organizations to reduce the financial burden.

The Municipality has also hired a third-party service provider for some of the IT services. These are opportunities available in the industry, especially for small municipalities to optimize the use of limited resources.

4.2. Municipal Online Services Assessment (MOSA)

Perry Group's standardized Municipal Online Services Assessment is designed to articulate a target state for digital experiences that municipalities could/should deliver to citizens based on industry best practices.

The simplicity of the tool allows for a quick assessment that generates a scored value that can then be compared against other municipalities who have also been assessed.

Central Huron's MOSA results are available below. It is clear from the results that there are many opportunities for Central Huron to modernize and digitize its various service offerings by moving the services to self-serve online.

The Digital Experiences Assessment results, also shown below, indicate that Central Huron is lagging behind its counterpart municipalities in offering digitized services and is a good distance behind the world-wide leaders.

Central Huron - Modern Customer/Digital Experiences

Customer / Experience

Modern Customer Experiences	
Customer / Experiences	**Central Huron**
	centralhuron.ca
Easy to use website	Y
Mobile website	Y
Personalization	N
Single Account	N
Submit a service request	N
Track a service request	N
City App	N
Customer knowledge base	N
Online chat with CSR	N
Tweet for help	N
Online bid management	Y
Pay Taxes Online	N
Pay an invoice	Partial
Parking / infraction ticket payment	N
Parking permits / exemptions	N
Recreation program online booking	N
Rent a facility	N
eForms	Partial
Open Data	N
Transit planning	N
Tax account management	N
Tax certificates	N

Customer / Experience

Building permit application	Y
Book a building inspection	Y
Submit digital plans	N
Submit development application	N
Track development application	N
Employment search and applications	Y
Sign permits	N
Fire / Fireworks permit/Open Air	Y
Pet licence	Y
Theatre Tickets	N
Road closures	N
Snow clearance status	N
Events calendar	Y
Filming permits	N
Business licences	N
Council / committee web streaming	Y
Online Agendas / Minutes	Y
Grants programs	Y
Council delegation request	N
Site suitability / selector / vacant land	N
Marriage Licence	Y
Digital Signatures	N

Central Huron Modern Customer/Digital Experience Results

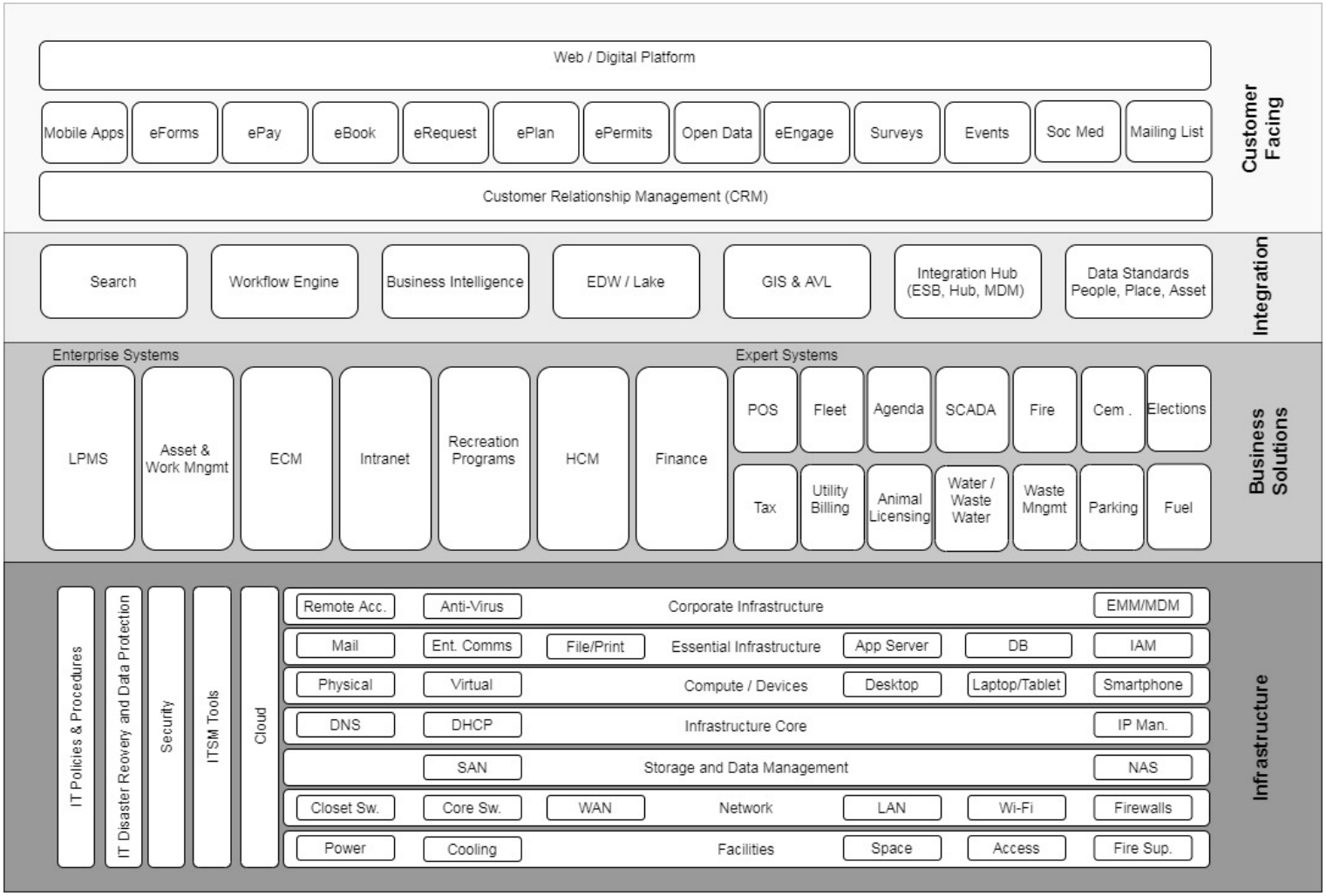
Municipality	Scoring Values (Y=3, Partial = 1)	Potential Score	Overal Score as a Percentage	
Central Huron	41	132	31.1%	
South Huron	44	132	33.3%	
Orillia	50	138	36.2%	
Oshawa	76	141	53.9%	
Brampton	73	141	51.8%	
Markham	93	117	79.5%	
Mississauga	80	117	68.4%	
Toronto	75	117	64.1%	
Calgary	90	114	78.9%	Leading Canadian
Boston MA	82	114	71.9%	Leading US Digtal Orgs
Lousiville KY	70	114	61.4%	Leading US Digtal Orgs
Brimingham UK	76	105	72.4%	Leading UK
Melbourne AUS	69	111	62.2%	Leading Australian

As evident above, Central Huron's online service score is below 50%. This shows that there is potential to increase the amount of online services to the residents.

4.3. Municipal Technology Model (MTM)

Perry Group's standardized Municipal Technology Model (MTM), shown below, was the basis for evaluating the Municipality's technology environment.

The MTM provides a framework for the consulting team to assess a municipality's technology environment and is also a guideline to assist municipalities in targeting their needs and priority work areas, as well as tracking progress.



4.3.1. Four Technology Layers

There are four main technology layers – Infrastructure, Business Solutions, Integration, and Customer-Facing Technologies.

Within each layer, there are specific technologies or solutions. For example, in the Business Solutions Layer, items include:

- A Finance system (such as KeyStone).
- A Payroll system (such as ADP).
- A Fire Incident Management system (such as FirePro), and
- A Work Management system (such as Pearl).

Each layer requires discrete IT skill sets to be managed effectively. For instance, while technology infrastructure management is deeply technical, business solutions projects require project and process management, change management and people skills. Web projects need development and User Experience (UX) expertise.

The Layers Explained

An IT organization needs a breadth of skills across the various layers to effectively manage the complete environment.

The table below provides a detailed description of each layer.

Infrastructure	Business Solutions	Integration	Customer-Facing
This is the foundation for the entire technology environment – all other layers – so must be robust and reliable.	Limit the number of corporate business solution platforms to minimize process and information silos.	Well-integrated business solutions allow data to be automatically passed between systems, reducing data duplication and errors, and ensuring auditability, while enabling data analysis and visualization using GIS.	This layer is what the customer experiences – the web content management platform for online services, eForms, ePayments, the ability to submit and track service, permit and planning requests, to subscribe to notifications or to watch video recordings of Council meetings.

Infrastructure	Business Solutions	Integration	Customer-Facing
Unreliable infrastructure undermines all the technology that sits above it.	Core systems should be commercial off-the-shelf (COTS) solutions configured to support business processes (payroll, finance, tax, HR, recreation programming, etc.).		Customer-facing digital solutions should allow customers to easily find information, to conduct transactions with the Municipality (e.g., submitting requests and applications, making payments) to engage with the Municipality to provide input on important decisions.
Policies, security, data protection and disaster recovery provisions should be in place to protect information assets and meet legal compliance obligations.	Customization should be avoided.		Systems must be integrated into back-office business solutions.

Infrastructure	Business Solutions	Integration	Customer-Facing
Tools are required to help manage the IT environment and tasks simply and efficiently (e.g., a helpdesk request tracking system, systems management solutions, and automation tools such as remote support, patch management, mobile device management), to increase IT staff productivity and enable employee self-service (e.g., password resets).	These systems or platforms provide the foundation for automated and streamlined business processes and gather data to drive analytics capabilities and underpin the effective delivery of online services.		If processes are not digitized in the back-office, they cannot effectively be offered online.

Figure 5: Descriptions of the Four Technology Layers

4.3.1. Technology Assessment – Build from the Bottom Up

The IT architecture should build from the bottom up – Infrastructure first, then Business Solutions, and so on. It is impossible to offer (for example) online building permitting services, if the back-office uses Excel and paper files.

These are some of the basic tenets that underpin a well-designed technology environment and under which a complete municipal technology environment should operate.

The figure below is a summarized version of Perry Group's MTM. The diagram reflects that all of the layers are interconnected:

- Without a stable, secure, Infrastructure Layer, reliable business applications cannot support efficient and effective service delivery.
- Without these back-end applications, delivery of integrated end-to-end online services cannot be achieved.
- And without the Integration Layer, information remains locked within individual application silos.

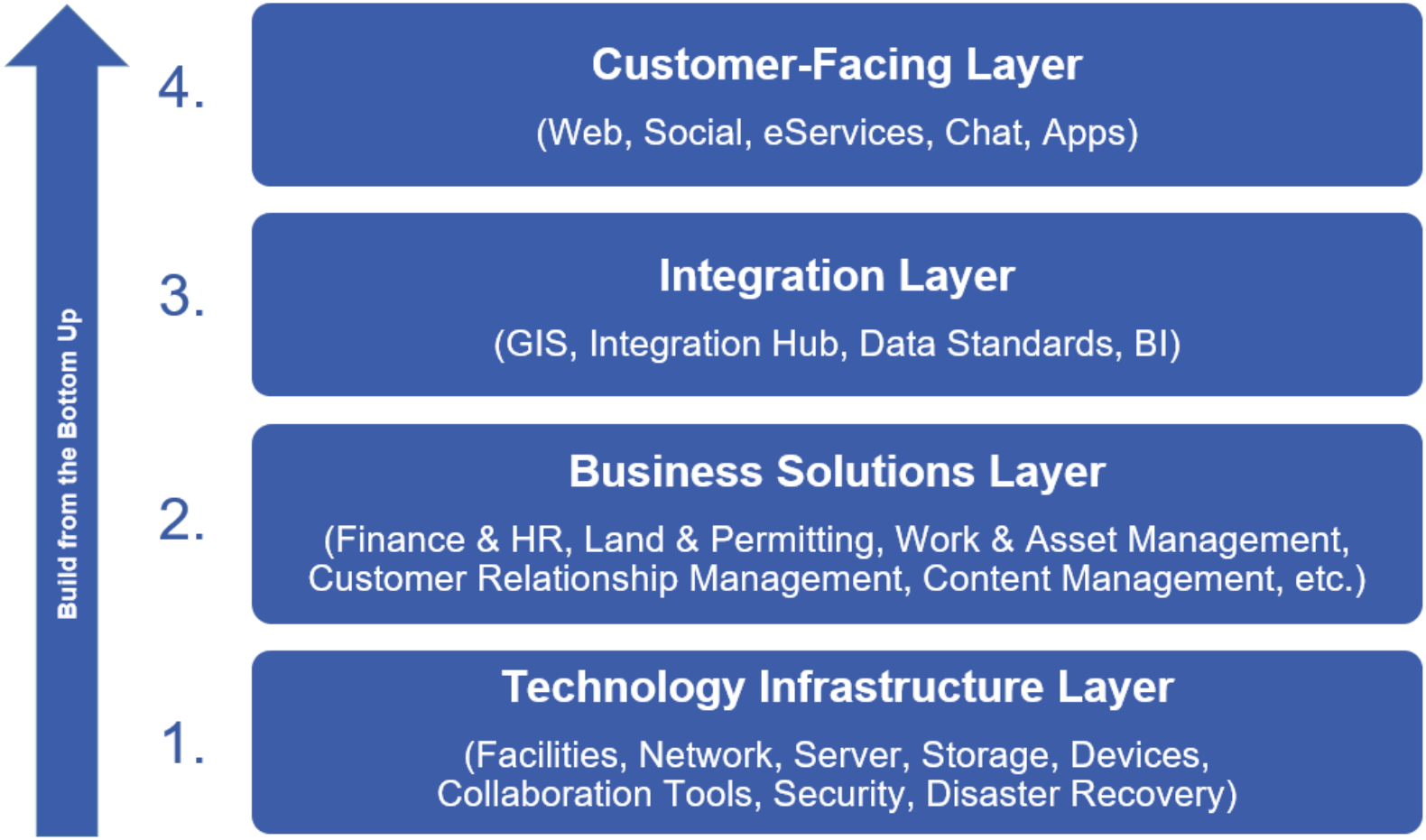


Figure 6: Visualization of Technology Architecture

4.3.2. Assessment Results and Key Takeaways

Perry Group reviewed Central Huron's technology against the MTM. The MTM diagram shown below colour codes the results of the review, identifying areas that are "OK", where gaps exist, where there is risk associated, where an existing solution needs to be replace and where there is an existing solution but work against it is needed.

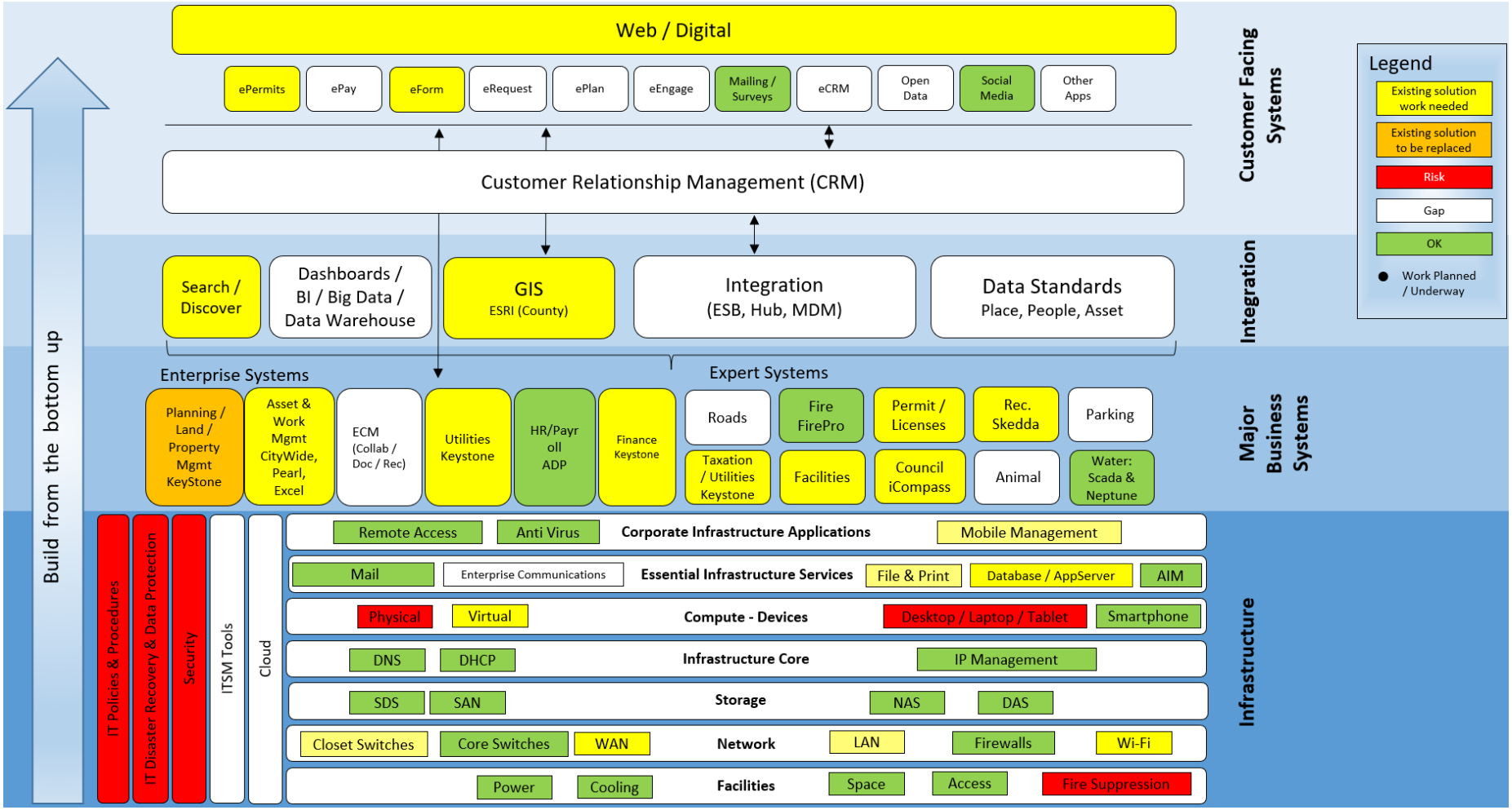


Figure 7: Central Huron MTM Assessment Results Visualization

4.3.3. Key Takeaways from the MTM

The following section highlights key points in each layer of the MTM – positive aspects as well as key issues to consider.

Infrastructure

Infrastructure	
Positive Aspects	The Municipality utilizes a third-party service provider to augment internal IT capabilities. Some security tools and practices are evident.
Key Issues	Infrastructure is unstable. Lack of corporate governance. Lack of Security Incident Response and Disaster Recovery Plans.

Business Solutions

Business Solutions	
Positive Aspects	Some industry-recognized business systems are being used: KeyStone, Pearl, CityWide, FirePro, iCompass, ADP, etc. Staff self-service is implemented using ADP.
Key Issues	Multiple key business areas lack suitable business solutions: Planning, Permitting, Licensing and By-law, Asset and Work Management, internal collaboration (Intranet). The KeyStone financial system does not have a roadmap for future improvements There is not internal business systems support

Integration

Integration	
Positive Aspects	A couple of point-to-point integrations have been implemented, e.g., ADP to KeyStone.
Key Issues	Lacks data analysis capabilities, policies, and tools. Lacks an integration platform and tools.

Customer-Facing

Customer-Facing	
Positive Aspects	New industry standard website has been implemented. The web has the capabilities to offer online services. A project is underway to digitize fillable forms.
Key Issues	Absence of key strategies or roadmaps to drive service delivery or provide online alternatives. Absence of key online service capabilities, e.g., Tax Account Management, plan submissions, complaints and service requests, parking, Open Data, road closures, snow removal, etc. Lack of a Customer Relationship Management (CRM) system. Lack of online payments.

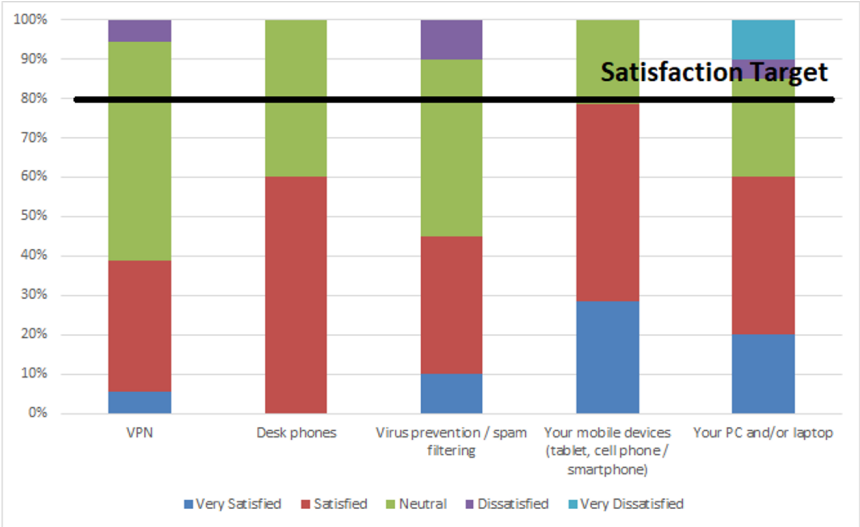
4.4. Staff Survey Results

The consultants received staff inputs through an anonymous online survey. The purpose of the survey was to receive direct feedback from the staff related to the use of technology in the Municipality. 21 staff members participated in the survey. Following are a few key insights from the staff survey.

Q8: Please rate the following services – Part 2 (*without* N/A).

Answered: 21 Skipped: 1

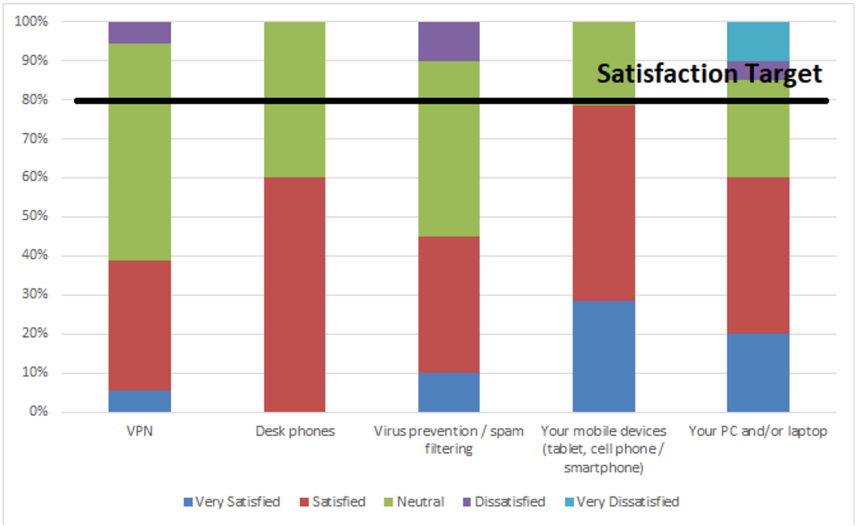
- None of these services meet the satisfaction target.
- "Your PC and/or laptop" is the lowest ranked in terms of satisfaction.



Q8: Please rate the following services – Part 2 (*without* N/A).

Answered: 21 Skipped: 1

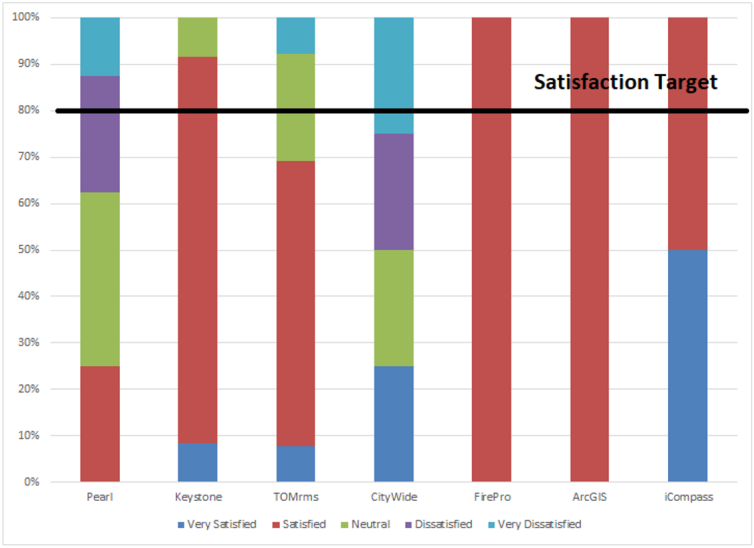
- None of these services meet the satisfaction target.
- "Your PC and/or laptop" is the lowest ranked in terms of satisfaction.



Q10: Rate the core business systems that you use – Part 1 (*without* N/A).

Answered: 20 Skipped: 2

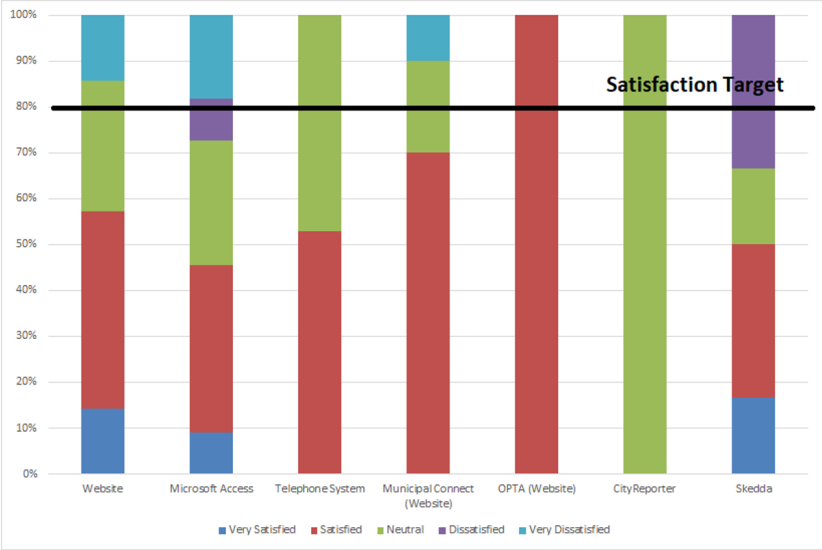
- This is part 1 of a 2-part graph for this survey question and does NOT show the N/A responses.
- Pearl and CityWide have the greatest number of dissatisfied respondents.
- While FirePro and ArcGIS appear to have a high satisfaction rate, it is worth noting that only 2 people responded to this question with something other than N/A.



Q10: Rate the core business systems that you use – Part 2 (*without* N/A).

Answered: 20 Skipped: 2

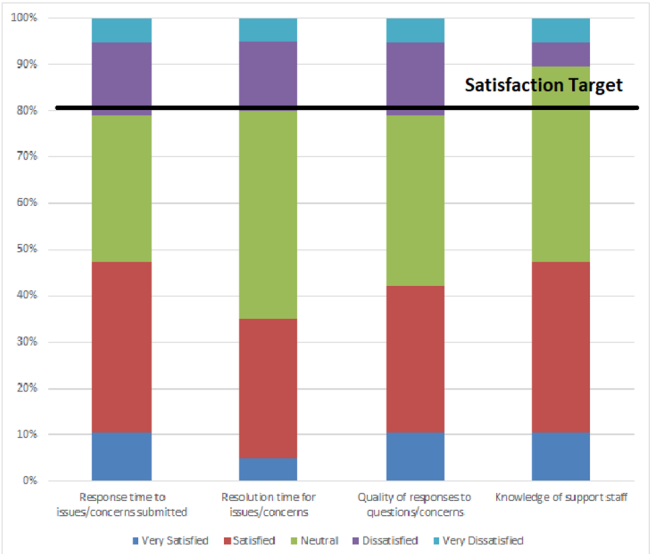
- This is part 2 of a 2-part graph for this survey question and does NOT show the N/A responses.
- While "OPTA (Website)" appears to have a high satisfaction rate, it is worth noting that only 3 people responded to this question with something other than N/A.
- Skedda had an equal number of respondents satisfied and dissatisfied.



Q17: Please rate your satisfaction with ContinuIT's service to you – cont'd (*without* N/A).

Answered: 21 Skipped: 1

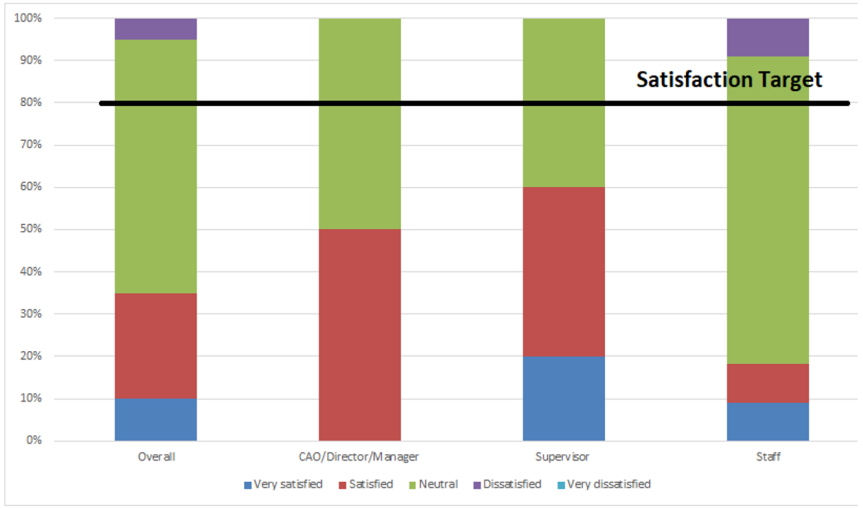
- This graph does not contain the N/A responses.
- For all items, all roles feel neutral or dissatisfied with ContinuIT's service.



Q40: Overall, how satisfied are you with information technology services at the Municipality?

Answered: 20 Skipped: 2

- All respondents feel neutral about the information technology services they are currently receiving.
- 50% of the CAO / Director / Manager role and 40% of the Supervisor roles are "Satisfied" with IT at the Municipality.



The overall feedback from the staff shows that the Municipality's use of technology is "Neutral" in most areas.

4.5. IT Skills Assessment

Perry Group examined thirty (30) key functions that facilitate the minimum service levels that a municipal IT department should provide. We evaluated the performance by internal staff working on IT and the third-party service provider:

- 8 functions are deemed to be at a satisfactory level.
- 12 functions are deemed to be partially in place (meaning they are partially delivering the required services).
- 10 functions are deemed to be non-existent or at very low levels of service delivery.

The key functions – those that should be addressed as soon as possible – are related to governance and service management.

An IT department – even in the case where it is a hybrid of staff and third parties – needs to understand how well it is meeting the requirements of the organization so it can improve service levels, where appropriate.

4.6. Technology Governance

The lack of formal IT Governance in any organization can lead to situations where there is no common set of goals or objectives for management and staff to work towards collectively.

IT Governance is not a set of rules and policies; it can be defined as “The processes that ensure that IT activities align with corporate objectives, and that derive value from the investment in information technology.”

It has been demonstrated through various studies that IT Governance can improve efficiencies and performance throughout an organization.

This is why we recommend an IT oversight group such as an IT Steering Committee. They should be responsible for approving the IT Strategy, setting the direction and for ensuring that IT conforms to that strategy and direction.

Additionally, we recommend that the Municipality adopt a more formal Change Control process, to mitigate the potential of system failure or degradation during or after a system change is made. This process should involve examining the risk involved, the value the change will bring to the Municipality, and ensuring there is a backout plan.

There should also be a “change window” where everyone understands when the change will occur and take appropriate steps to ensure their work is saved and no one is working on that system. Finally, all changes should be tested before releasing the system back to production.

Since it is not feasible for the Municipality to perform multiple major projects at the same time, there should be a project prioritization process, where each project is evaluated based on value, risk and resources required to execute the project.

The IT Steering Committee should perform this evaluation with input from IT and the appropriate stakeholders from affected business units. There will be some tough decisions to make at times, but this formal process will allow for more effective project delivery and should provide the best possible value for Central Huron.

The Service Level Agreement (SLA) between Central Huron and the third-party providing infrastructure and security services is ambiguous and does not clearly spell out the services to be provided or the level of these services.

The Municipality should have SLAs in place with all major service providers that clearly state services, service levels and roles and responsibilities.

4.7. IT Service Management

IT Service Management (ITSM) is how IT teams manage the delivery of IT services to their clients.

Think of how a large company such as Amazon delivers services, and how it tracks customer satisfaction levels. They will know how often a desired item is out of stock. They will know how long it takes to deliver each item. These and other metrics help Amazon to understand where they could improve their service levels, and potentially drive more business.

While the Municipality is not necessarily trying to drive more business, it still needs to understand what IT services are being delivered, how well they are being delivered and how to improve these services and their delivery.

This is accomplished by collecting statistics and developing metrics; for example, the number of outstanding calls over 48 hours, and the average time taken to resolve IT requests.

Another aspect of ITSM is Knowledge Management. This is the process of gathering information about previous incidents and projects and collecting it in a single repository called a knowledge base. This knowledge base is maintained by adding new information or updating existing information as required after each incident or project.

By maintaining this knowledge base, IT staff can access valuable information from previous events and potentially save many hours of problem investigation as the same issue may have occurred before and the solution is contained in the knowledge base.

Taking it a step further, this knowledge base could also be made available to staff, meaning they may be able to resolve many of their own IT issues, resulting in fewer calls to the Service Desk and greater productivity.

4.8. IT Environment Risk and Vulnerability Assessment

A Risk And Vulnerability Assessment was performed using questionnaires, interviews and a review of the Municipality's current practices and processes. A number of issues were discovered – some of them significant and some of them less so.

The assessment was performed based on the National Institute for Technology and Standards (NIST) Cybersecurity Framework – Identify, Protect, Detect, Respond, Recover. This framework is commonly used and provides a reference against which an organization can be measured for a recognized standard.

4.8.1. Security Incident Response and Disaster Recovery

Central Huron does not have any formal Incident Response or Disaster Recovery Plans. In today's world, where cyber-attacks (including ransomware) are becoming commonplace, it is paramount that municipalities understand what they will do and how they will respond to a significant disruption of IT services.

Central Huron has indicated that it relies heavily on IT services to deliver its own services, both internally and to its constituents. It is important that the organization understands what it has to do in the event it loses these IT services for a significant period of time.

For Incident Response, much of the work can and should be done before an incident occurs. For example, if a ransom is demanded, are you going to pay it? The answer to this question should not wait for the incident to occur, as the decision will likely have to be made by Senior Management, Council or both.

Other pre-incident tasks include determining roles and responsibilities, when to call in third parties such as the cyber insurance provider, law enforcement and others. These should all be pre-determined so that valuable time and effort is not wasted during the incident.

For Disaster Recovery, simply having a backup is not a sufficient plan (although good backups are part of that plan). Do you understand which of your services are the most critical, and so where the effort should be placed in protection and restoration? Do you understand how much data you can afford to lose in terms of number of days or weeks? What is your ability to recover and what do you need to do before you can even think of restoring from backup?

The above are just a few of the items that go into Security Incident Response and Disaster Recovery planning. We highly recommend that the Municipality invests in formal plans and programs to address these issues.

4.8.2. Information Security Awareness Training

While having plans to address incidents is very important, it should be the objective of the organization to mitigate the risk of an incident actually occurring. Having security tools – such as firewalls and anti-virus – are of course necessary, but no matter how much technology you put in place, the weakest link will always be the human one.

Most successful cyber-attacks are facilitated by a staff member clicking on an attachment, clicking on a link inside an email or browsing websites that are unsafe and contain malware. Educating Council, management and staff on how to recognize malware and what *not* to do is one of the most effective means of mitigating the risk of compromise to the Municipality's networks and information assets.

4.8.3. Risk Management

There is no formal risk management program, either for internal items or for assessing third parties. Most organizations understand risk management. It is not about eliminating risk, although that would be optimum. Rather, it is about doing what you can to mitigate risk.

For internal risks, there should be a program that identifies all IT risks, assesses each risk for probability and impact, and assigns a specific individual or role to address each risk. This is called a Risk Register and should be developed and maintained.

For third parties, especially those who are or may be providing significant services to the Municipality, due diligence (including a risk assessment) should be performed. This should include determining levels of security that the service provider maintains, if they subcontract or otherwise distribute the Municipality's data to any other party, and if they have the resources to be able to effectively deliver the services required by Central Huron.

4.8.4. Other Matters Requiring Attention

Other issues that require action include:

- Engaging an independent third-party to perform an external penetration test of the network to determine how easy or difficult it would be for a hacker to enter the network and obtain control.
- Conducting regular vulnerability scans to discover current vulnerabilities.
- The lack of encryption of mobile devices such as laptops.
- The practice of privileged account holders not using regular accounts when privileges are not required.
- The lack of a formal Data Destruction Policy.
- Clarification of the need for cyber insurance.

4.8.5. Security Program

All of the items in this Risk and Vulnerability section should be taken under consideration and developed into a Security Program.

Each item should be prioritized, assigned and monitored with a roadmap put in place to determine when each item will be addressed. The security-related items in the Work Plan section of this Report can be used as the basis for developing the Security Program.

4.9. Financial Analysis

Central Huron's annual IT budget is comparatively very low.

The consultants compared public sector IT spending with Central Huron's using multiple metrics, and all measurements have shown that Central Huron's IT funding levels are very low compared to other municipalities.

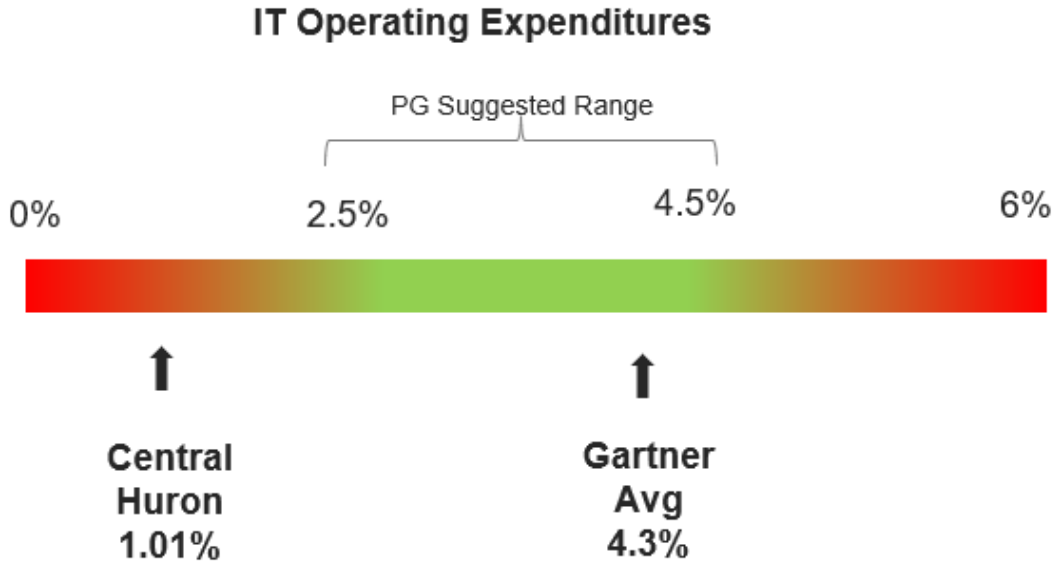
The table below shows the budget data used for the financial analysis:

- 2020 overall operating budget: $ 15.4 million
- 2020 IT operating budget (inclusive of telephone costs): $ 156,000
- 2020 number of full-time employees: 45

Description	2020 Budget Amount
Total IT Operating Budget	$156,000
Total Municipal Operating Budget	$15,400,000
IT Budget as a Percentage of Total Operating Budget	1.01%

The IT budget as a percentage of the total Municipality's budget is 1.01%. This is well below the recommended range of technology investments in the municipal sector.

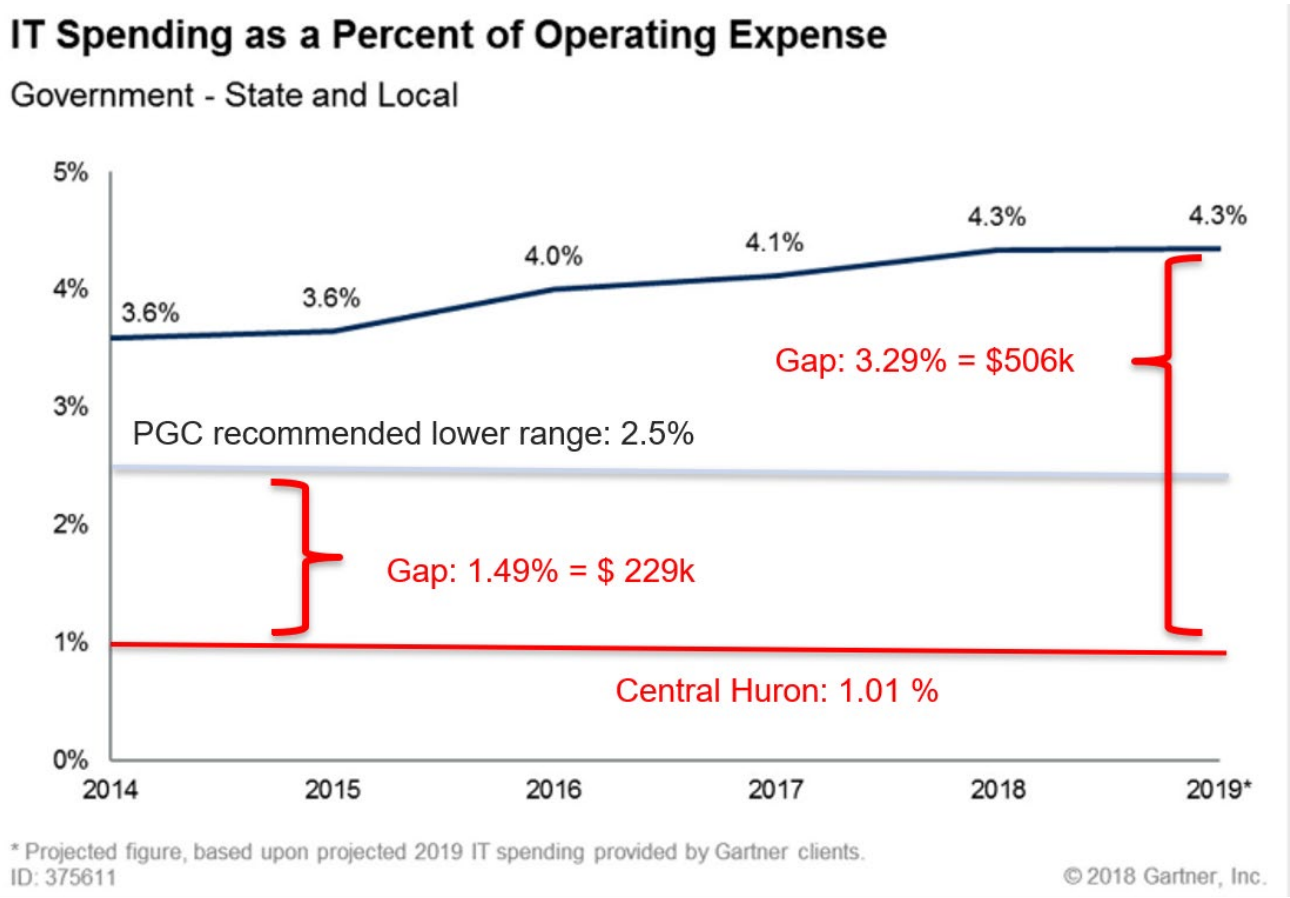
The municipalities who are using technology effectively, are investing between 2.5% - 4.5% of their operating budget in technology. This recommended range is derived based on years of over 100 municipal engagements by Perry Group Consulting.



According to the IT Key Metrics Data 2019 by Gartner Research, public sector organizations in North America spent an average of 4.3% of their total budget in technology. This is an annual shortfall of $360,000 compared to Central Huron's 2020 IT budget.

The Perry Group recommended range for IT spending in Canadian municipalities is between 2.5% and 4.5%.

In order to reach higher levels of customer satisfaction and internal efficiencies, Central Huron has an opportunity to increase its technology funding to reach the Perry Group recommended minimum level. An additional $229,000 operating funding could allow the Municipality to reach the Perry Group suggested minimum level of 2.5%.



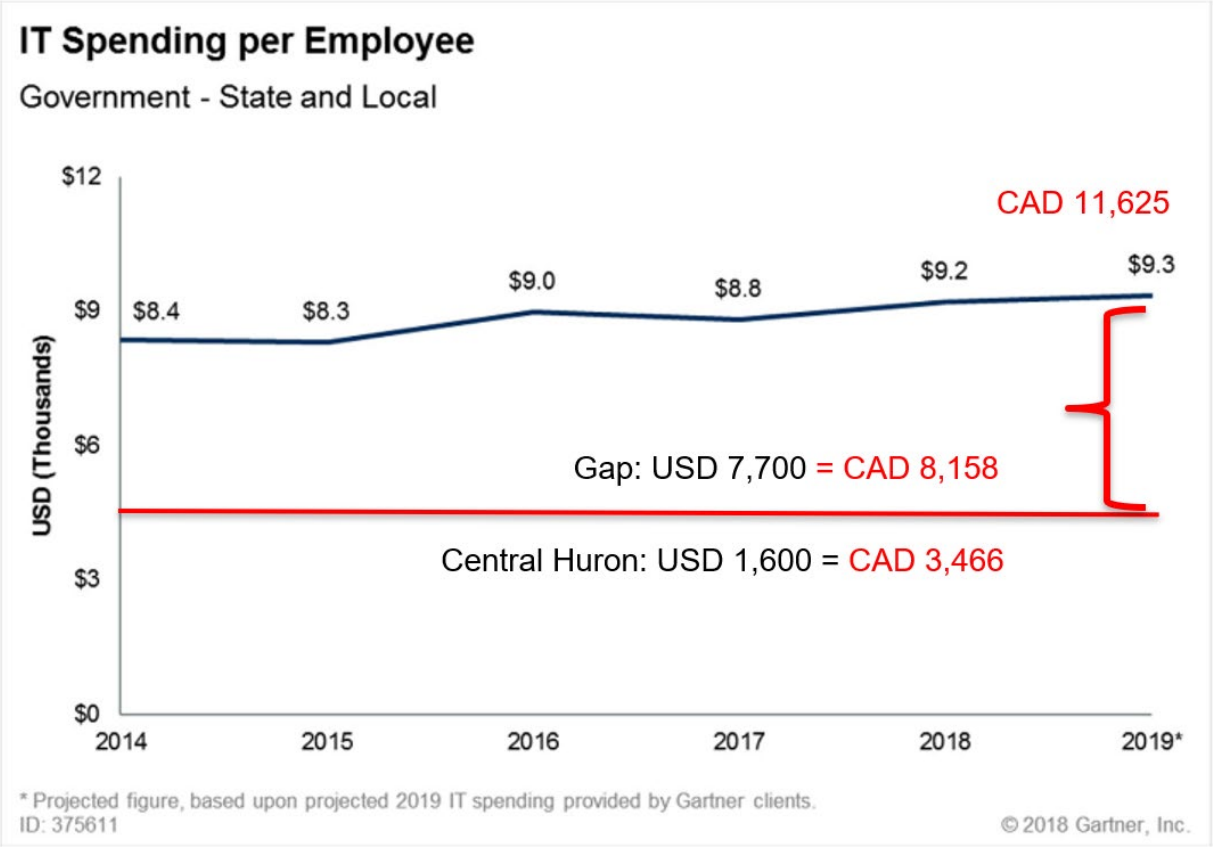
Historically, municipalities that spend more in IT are able to move ahead with more digital services and more savings compared to those who don't.

An example to compare – the Town of Innisfil's IT budget in 2020 was 3.1% of the Town's total budget. Innisfil is a leader in technology use, among small municipalities.

The Gartner study shows that the trend in IT spending in government agencies over the past 6 years has increased year-over-year. Government organizations have been increasing their IT budgets consistently over the years and that trend will continue with more and more business processes moving to digital and online.

The Municipality has been increasing its technology budget in the past years, but as illustrated above, there is still a gap to be filled.

Another commonly used metric is the IT spending per employee. For this comparison, only the number of FTEs (Full-Time Employees) are used. The following figure shows a comparison of Central Huron with the industry.



Source: Gartner IT Key Metrics Data (December 2018)

The above graph shows that the Municipality is spending $ 3,466 per employee for their technology needs. The gap between the current IT expenditure per employee at Central Huron and the average IT expenditure per employee in the North America is $ 8,158. With 45 FTEs, this amounts to an annual IT budget gap of $ 367,000.

In summary, the Municipality's technology spending is very low compared to other municipalities in North America.

Metric	Innisfil	Huron County	Whitehorse	Haldimand	Essa	Central Huron

# of Residents	36,000	60,000	25,000	45,000	21,000	10,000
IT Spending Per Employee	$ 6,906	$ 5,754	$ 4,903	$ 3,243	$ 4,833	$ 3,466
IT Operating Budget as a % of the Municipal Budget	3.1	2.8	2.0	1.9	1.6	1.01

The table above shows a selective comparison of the funding metrics among small municipalities as well as Huron County. It is important to highlight that the Town of Innisfil is known for its technology advancements and the high level of technology funding is justified.

4.10. Current State Summary

The Municipality was looking to answer the following questions through this project.

1. Is the Municipality making the right technology investments?
    - The Municipality has implemented a few industry-recognized business systems.
    - The level of technology investment in Central Huron is extremely low.
    - The Municipality is struggling to make the most of its current technology investments.
2. Is an effective IT Governance model in place?
    - There is an IT budget approval process.
    - There is no IT Governance in place.
3. Are the Municipality's software solutions cost effective?
    - The cost of the software solutions in use is on par with the value the solutions have produced.
    - There are opportunities to expand the use of some of the systems.
    - There are opportunities to consolidate some of the systems.
    - There are areas with gaps where no software solutions have been implemented.
4. What are the Municipality's future business needs?

- The Municipality needs to integrate the various business systems.
- More end-to-end digitized business processes should be put in place.
- More online services for the public are required.
- More stable technology infrastructure and security should be in place.
- Municipal staff and management should have access to data analytics for informed and effective decision-making.

5. Do staff have the fundamental IT knowledge to move digital initiatives forward?
    - There is no internal IT staff, which is a key gap identified during the assessment.
    - The current IT support function is managed by the Finance staff with great effort. It is not sustainable for the Finance staff to support IT on a part-time basis.
6. Which business processes will yield the greatest return on investment as a result of re-engineering/optimization?
    - The planning, permitting, by-law and licensing processes could benefit from a property-centric process automation system. The Municipality is using KeyStone at the moment to track some of the transactions.
    - The asset and work management processes are not automated. A business solution that digitizes these end-to-end processes could benefit the Municipality.
7. Does the Municipality have a solid and secure IT environment?
    - Some basic security requirements are in place, but many things could be done to improve overall security.
    - The infrastructure is unstable, with many reports of inferior performance and other issues that contribute to the overall unreliability of the network and systems contained therein.
    - The Municipality is not in a strong position to be able to respond to and recover from a significant incident that may cause a disruption in IT services.
8. Is IT effectively delivering IT services to its clients?
    - IT is delivering services to the point that the business can operate, however, there are no metrics or other methods in place to establish which services are effective and which require improvement.
    - IT Service Management functions are lacking, including knowledge management, asset management and incident tracking.

Recommendations

5.0 Recommendations

After completing the current state assessment, the Perry Group consultants prepared a list of draft recommendations. These draft recommendations were presented and reviewed with SMT for feedback. The final recommendations were formed and presented in-line with the Key Outcomes as defined in the RFP.

The Key Outcomes as defined in the RFP are:

1. Improve customer service and accessibility for residents/visitors/businesses.
2. Maximize operational efficiency.
3. Integrate systems and leverage data points to increase decision-making accuracy.
4. Minimize data entry, process duplication, and hard copy documentation.
5. Maintain long-term cost sustainability.

5.1. Improve Customer Service and Accessibility for Residents / Visitors / Businesses

With the majority of businesses having to close down their in-person operations during the Coronavirus pandemic, they are trying to make decisive shifts to keep their customer service and support operations running.

This crisis has revealed that a robust, customer-first service strategy is required in order to maintain long-term business resilience and success so, with the delivery of municipal services to residents, visitors and businesses, Central Huron can seize the opportunity to provide end-to-end service capability through greater emphasis on access to more services via the corporate website.

Ongoing investment in online/web service delivery will result in significant improvements to customer and employee satisfaction. It is recommended, that Central Huron assemble an internal *"Online Services Improvement"* working group to maintain a focus on efforts related to determining an inventory of services that could be provisioned, delivered and managed online.

5.2. Maximize Operational Efficiency

5.2.1. Optimize and Digitize Business Processes

The efficiency of the Municipality depends on its business processes.

The current business processes should be optimized through process review. The optimized processes should then be digitized for optimal efficiency.

It is important to digitize entire processes rather than specific activities within a process, i.e., identify duplication of work and less value-adding activities within a process and eliminate those. Activities that could be done better by a business system should be automated. Identify points in a process where data is tracked separately by staff from different departments. These could be eliminated by data integration or sharing.

It is important to note that the Municipality should not digitize a “bad process”. Automation projects should always be preceded by a process improvement exercise.

5.2.2. Resolve Issues with IT Infrastructure

The Municipality suffers from frequent service disruptions and outages, potentially due to unreliable infrastructure.

The IT infrastructure is the base on which everything else is built and *must be reliable* to facilitate other improvements to business solutions and services.

The Municipality should have an independent third-party perform an in-depth network assessment to determine the performance issues. Discovering the root cause or causes of the issues the Municipality is experiencing and resolving these issues, is essential to deliver reliable IT services to the organization.

An independent third-party should be able to quickly identify these root causes and recommend or implement resolutions.

5.2.3. Implement Enterprise IT Governance

IT Governance is the broad term given to the groups, processes and methods that are used to make effective technology decisions, and to ensure that IT activities align with corporate objectives.

Effective IT Governance is essential if an organization is to control, coordinate and ultimately derive the best value from its investments in technology.

A study by Cognizant has shown that organizations with IT Governance in place are more effective than organizations without it. The following are overall findings from the study:

- Improved strategic alignment, resulting in increased business partner satisfaction in the order of 15% to 20%.
- Enhanced value delivery, driven by improved project prioritization, leading to reduction of IT budget by 8% to 10%.
- Improved performance and resource management, lowering the total cost of IT ownership by 10% to 15%.
- Better quality of IT output, resulting in a reduction in IT control issues by 50%.

An enterprise IT Governance framework should be developed and implemented including:

- An IT Steering Committee (SMT can perform this role).
  - This committee will form the high-level IT Strategy to align with Corporate Strategy and guide major decisions on IT systems and processes.
- Project Intake and Prioritization Group.
  - This group will review major project requests such as system upgrades, new system purchases and other projects that would take considerable time and resources.
  - Any organization only has a certain capacity to take on new projects on top of existing workloads, and so each request must be considered carefully. This would include value, risk, costs, and resources.

5.2.4. Improve the Security Posture of the Organization

There are those who believe that security is a barrier to efficiencies, but if implemented properly it can be an enabler.

We must consider first, the loss of productivity should a security incident cause service disruption. A single staff member with a virus on their computer could be unproductive for hours while the malware is removed, and everything restored. If that virus propagates throughout the network, then all personnel would likely be affected, resulting in significant service disruptions within the organization and to Central Huron's constituents.

Recommendations to mitigate the risk of such an incident include:

- Develop a Security Program to address risks and vulnerabilities highlighted in this Report.
  - A Security Program is not a one-time event. Rather, it is an ongoing program that first addresses the risks and vulnerabilities already discovered, and then introduces practices that mitigate the risk of these issues recurring.

- Implement a security awareness training program for all personnel.
  - This will mitigate the risk of staff opening malicious attachments or clicking on links inside emails that could lead to malware infecting the network.
- Develop and implement an IT Policy that includes security standards and practices.
  - A policy should not be overwhelming or complex. It should be as concise as possible while stating the purpose and the policy statements. An IT Policy helps personnel understand what is and is not permitted and will help to facilitate appropriate security practices throughout the organization.
- Ensure that all mobile devices are encrypted.
  - Encrypting mobile devices ensures that if a device is lost or stolen, the data on the device cannot be revealed or compromised.
- Implement the security proposals from the current service provider such as 2-Factor Authentication.
  - 2-Factor Authentication introduces a second layer of security access making it more difficult for an attacker to penetrate the Municipality's network.
- Develop and implement a Disaster Recovery Plan and a Security Incident Response Plan.
  - A Disaster Recovery Plan is not just having a backup. The organization needs to understand which services are critical and where prioritized recovery efforts should be focused in the event of an incident.
  - A Security Incident Response Plan facilitates the preparation for a security incident and describes the roles, responsibilities and tasks involved should an incident occur.

5.2.5. Introduce IT Service Management (ITSM)

IT Service Management helps an IT organization understand the levels of service it delivers to its clients, where service needs to be improved and what should be done to make the improvements.

Implementing select ITSM processes will improve overall performance of IT and deliver better levels of service to the whole organization. To implement ITSM processes, the Municipality should:

- Develop IT performance metrics to establish service level satisfaction.
  - This allows the organization to determine focus areas for improving service.

- Develop and implement a Change Control Process.
  - The Change Control Process helps to ensure that changes are not disruptive to the organization by evaluating value and risk of the change, communicating the change, and ensuring there is a fallback position if the change causes a malfunction.
- Develop and implement an IT Knowledge Base.
  - A knowledge base of issues, incidents and resolutions not only helps IT staff resolve issues faster, but it can also allow other personnel to examine the knowledge base themselves to see if they can fix their own problem. This results in more efficient IT operations and can also improve performance of non-IT personnel due to faster issue resolution times.

5.3. Integrate Systems and Leverage Data Points to Increase Decision-Making Accuracy

The Municipality has invested in departmental business systems in the past. These systems are capable of automating departmental business functions in a silo environment.

To receive full benefits of automation, individual business systems should be integrated with one another. Specifically, all systems that deal with payments, must be integrated with the Finance system. Lack of integration creates duplication of effort and exponentially increases risk of error.

It is also important to understand that integrating business systems is a costly affair. A small municipality like Central Huron may not be able to integrate and maintain those integrations with the current level of funding, therefore, an alternate vision is recommended.

5.3.1. Implement a Single Integrated Municipal ERP

The Municipality should consider implementing a single municipal ERP system that is capable of automating multiple lines of business.

While it is difficult to find a single system that can cover all business areas of a municipality, there are systems that have modules to automate most key areas. A single municipal ERP should include most of the following modules:

1. Finance and HR.
2. Utilities and Tax.
3. Asset and Work Management.
4. Property-related services: Planning Approvals, Permitting, By-law Enforcement, Licensing.
5. Recreation Program Management.

6. Online Customer Portal.
7. Mobile access to field staff.

In the current scenario, Central Huron has implemented five systems (KeyStone, ADP, Pearl, CityWide and Scada) to automate four of the seven areas above (1, 2, 3 & 5).

Imagine the simplicity of having a single system that is capable of automating most of the business areas and is inherently integrated. Such an environment would be easy to maintain and would be less expensive. Such a system could generate integrated data that would allow the Municipality to perform data analysis for better decision-making.

The recommendation is to go out to the market with a RFP for a municipal ERP. Once procured, the implementation should be in phases. The first phase should implement one of the modules and provide a window for the Municipality to familiarize itself with the system and then expand to the rest of the business areas.

A potential starting point could be the Planning and Permitting business area. Planning and Permitting does not have a tracking system currently.

5.4. Minimize Data Entry, Process Duplication, and Hard Copy Documentation

Most of the business processes in the Municipality are using paper, even where a business system is in place. Some areas use both paper and a system for tracking their activities. This is common among municipalities.

In order to receive maximum benefit of automation, a business process must be digitized from beginning to end. This means not using paper for *any* of the activities. Such digitized processes require capture of data as part of the process, e.g., a Building Inspector performing an inspection in the field must enter their inspection notes directly into the system while in the field. An example from Central Huron is the time tracking process where staff enter their time directly into the ADP system and their pay stubs are generated from the same system with low level paper use.

A paperless digitized business process also requires a culture change within the Municipality. Technology alone would not be sufficient. People and processes should be the primary focus in developing paperless and digitized processes.

5.5. Maintain Long-Term Cost Sustainability

5.5.1. Online vs. Over-The-Counter

It is proven that online services are less expensive than providing the same service over-the-counter or over-the-phone channel.

In order to reach long-term cost sustainability, the Municipality should consider moving public-facing services to the web. The following chart shows the comparison of service costs based on the channel.

Channel	Cost per Transaction (Service Canada)
Web / Online	$0.10
Phone	$4.00
Face-to-Face	$6.50

Figure 8: Transaction Cost Comparison Across Service Channels

Reference: Anywhere, Anytime, Any Device: Innovations in Public Sector Self-Service Delivery Research Report by Kenneth Kernaghan, Brock University, 2012

5.5.2. Single System vs. Multiple

As explained above in the Implement a Single Integrated Municipal ERP section, the Municipality should invest in a single integrated municipal ERP rather than implementing departmental silo systems.

A single business system that incorporates multiple lines of business and that is integrated with a single database will allow the Municipality to reduce ongoing maintenance costs and will help build expertise within the Municipality to support and maintain.

5.5.3. Business Process Optimization

As explained in the Optimize and Digitize Business Processes section, the biggest return on technology investment comes from automating and optimizing business processes.

Once a business process is automated, a continuous improvement program could continuously enhance the performance of the service. The data captured from the system could be analyzed to find bottlenecks and future improvement opportunities.

The systems should be kept up-to-date with upgrades so that the best value for the investment is received. The staff should be skilled-up to identify day-to-day improvement opportunities. These innovative ideas should be consolidated into the continuous improvement of the processes.

5.5.4. Cloud and Shared Services

The Municipality is familiar with the use of external services. It is recommended that the future business systems be implemented using the Cloud infrastructure.

Many government organizations have adopted the Cloud as a quick and economical solution to implement new systems. The turnaround time, cost of maintaining infrastructure and the cost of securing the owned infrastructure are outsourced to the Cloud service provider. This allows the Municipality to concentrate on business process optimizations and service improvements using the existing systems, rather than spending resources on maintaining hardware.

The recommendation is, therefore, to use the Cloud as the primary option for any future system implementations.

Mobilizing the Recommendations

6.0 Mobilizing the Recommendations

This section addresses how the Municipality should prepare for the implementation of the ITSDR recommendations. There are a handful of important changes required in order to help achieve a true digital transformation.

The following key areas require special attention.

6.1. Repositioning IT

6.1.1. Internal IT Staff

The Municipality is not able to optimize the current technology investment due to lack of support for business systems and process automation.

It is not practical for the senior Finance staff to play a part-time role in supporting the IT needs of the Municipality. Even though they have been providing a good service so far, it is not sustainable for the future.

Perry Group is recommending that an internal IT Manager/Coordinator be hired to fill this important position. The new role will coordinate all technology-related activities and also play a support role for business systems.

The new IT Manager/Coordinator role should *not* replace the existing external service provider. The external services should continue with a focus on IT infrastructure and network, directly reporting to the new role.

6.1.2. Align with the Corporate Strategy

An IT Strategy should be developed and aligned with the Corporate Strategy.

The recommendations in this Report could be used as the starting point for the IT Strategy. The following Corporate Strategy linkages have been satisfied by the recommendations of this Report.

Figure 9: Central Huron Mission Statement

Sustainable Delivery of Service and Strong Innovative Leadership are key drivers for technology. Online service delivery has a direct link to providing sustainable services as explained in Improve Customer Service and Accessibility section. In addition, the following strategic priorities are also supported by the recommendations.

- Strong Governance.
  - Sustain operational excellence and financial discipline.
- Economic Development.
  - Provide the gold standard of service to investment prospects.
  - Develop a strong web presence.
- Environmental Stewardship.
  - Demonstrate leadership by ensuring municipal operations and services are carried out in a sustainable manner.

- Improved Infrastructure.
  - Create a comprehensive database of municipal infrastructure and identify needs.
- Utilization of Facilities.
  - Improve marketing of all municipally-owned facilities.
- Communication/Community Involvement.
  - Strengthen the Municipality's ability to anticipate issues and prepare timely information.
  - Continuously improve the process by which citizens can connect with Council and staff.
  - Improve dialogue with citizens by boosting Council and staff awareness about what is taking place across the organization.

In the Corporate Strategy, the Municipality should apply the use of technology to these goals and build measures to evaluate the performance of projects toward reaching the corporate goals.

6.2. Governance

The Municipality should implement an IT Governance structure. More details are provided in the Implement Enterprise IT Governance section.

SMT should act as the IT Steering Committee (ITSC) and the new IT Manager/Coordinator role should provide status updates to the Steering Committee on a regular basis. Key technology decisions should be made by the IT Steering Committee, including the monitoring of major projects. Detail responsibilities and function of an ITSC is provided in Appendix 2.

A project management methodology should be adhered to along with a change management program. The IT Manager/Coordinator should implement and lead these practices.

6.3. Funding

In order to implement the recommendations of this project, the Municipality must fix the funding shortfall.

As explained in the Financial Analysis section, Central Huron's technology budget is considerably low. The Perry Group recommended range for technology funding is 2.5% to 4.5% of the total operating budget.

The recommendation is to take corrective action to fill this gap in the next three years. The following options should be considered:

- Option 1: An immediate funding increase of 0.9% ($ 140,000) and further increases in 2022 ($ 50,000) and 2023 ($ 35,000).
- Option 2: A 0.5% ($ 75,000) increase each year for the next 3 years.

The technology spending is an *investment for the future*.

The projects and the outcomes should be measured against the value they bring and the savings they generate for the Municipality.

Work Plan

7.0 Work Plan

The following table identifies specific digital initiatives with their related cost estimates.

The Proposed Priority column indicates the priority set by the consultants based on the needs of the Municipality and the knowledge of the municipal industry and its customers. The Digital Steering Committee may re-prioritize the Work Plan, if required.

ID#	Proposed Priority	Opportunity	Capital Impact	Operating Impact	Level of Difficulty	Estimated Time to Implement (Months)
Digital Services						
1	High	Hire an IT Manager	n/a	$100k	Low	2 - 6
2	High	Go to market with an RFP for a Municipal ERP that includes Finance, Asset, Work, PPLS, customer portal, etc.	n/a	n/a	Low	2 - 6
3	High	Implement the PPLS module.	$250k	$50k	High	6 - 12
4	High	Implement Financial modules of the ERP.	$400k	$80k	High	6 - 12
5	High	Implement the Asset and Work Management module.	$300k	$60k	High	6 - 12
6	High	Implement the customer portal of the Municipal ERP.	$250k	$50k	High	6 - 12
7	High	Expand M365 to Intranet and Records Management.	$150k	n/a	High	6 - 12
8	High	Expand the ERP to field staff.	$65k	$15k	Medium	3 - 6

ID#	Proposed Priority	Opportunity	Capital Impact	Operating Impact	Level of Difficulty	Estimated Time to Implement (Months)
9	Low	Expand the M365 platform to use the other apps: Forms, Flow, Teams, etc.	$50k	n/a	Medium	3 - 6
10	Medium	Expand the iCompass system to enable internal workflow, templates, Council voting, attendance, etc.	n/a	n/a	Low	6 - 12
11	High	Replace existing MSAccess databases with the functionality of the enterprise ERP.	n/a	n/a	Medium	n/a
Infrastructure and Security						
12	High	Develop a Security Program to address the risks and vulnerabilities highlighted in this Report.	$65k	$15k	High	6 - 12
13	High	Develop and implement an organization-wide annual information security awareness training program.	n/a	$5k	High	1 - 3
14	Medium	Develop and implement an IT Policy that includes security standards and practices.	n/a	n/a	Medium	3 - 6
15	High	Implement encryption for all mobile devices beginning with laptops.	$2k	Minimal	Medium	3 - 6
16	High	Create the IT Steering Committee, develop the Terms of Reference and meeting schedule and implement.	n/a	n/a	Low	1 - 3

ID#	Proposed Priority	Opportunity	Capital Impact	Operating Impact	Level of Difficulty	Estimated Time to Implement (Months)
17	Medium	Develop and implement a Change Control process.	n/a	n/a	Low	1 - 3
18	Medium	Develop and implement the Project Prioritization process.	n/a	n/a	Medium	3 - 6
19	Low	Develop IT performance metrics to establish service level satisfaction.	n/a	n/a	Low	3 - 6
20	Medium	Develop and implement an IT knowledge base.	n/a	n/a	Medium	6 - 12
21	High	Have an independent third-party perform an in-depth network assessment to determine the cause of the performance issues.	$20k	$2k	High	3 - 6
22	Low	Develop and implement a lifecycle management program for endpoint devices so they are replaced before they become obsolete.	n/a	n/a	Low	6 - 12
23	High	Develop and implement a Service Level Agreement with the third-party infrastructure and security service provider.	n/a	n/a	Medium	1 - 3
24	Medium	Develop and implement a formal Data Destruction Policy and process.	n/a	n/a	Low	2 - 4
25	High	Utilize the contents of this Report (along with Council and SMT priorities) to develop an overall IT Strategy, ensuring the Municipality is aligned, using technology to deliver more effective services.	$65k	n/a	High	6 - 12

ID#	Proposed Priority	Opportunity	Capital Impact	Operating Impact	Level of Difficulty	Estimated Time to Implement (Months)
26	High	Consider going to market to determine what is available for third-party infrastructure and security services.	TBD	TBD	Medium	3 - 6
27	High	Implement the security proposals from the current service provider (e.g., 2-Factor Authentication).	$2k	$1k	Low	1 - 3
28	Medium	Develop and implement a Security Incident Response Plan.	n/a	n/a	High	2 - 6
29	High	Develop and Implement a Disaster Recovery Plan.	$35k	TBD	High	3 - 9
30	Medium	Create regular user accounts for those with privileged accounts and ensure privileged accounts are used, only when necessary.	n/a	n/a	Low	1 - 3
31	Medium	Create a Risk Register with all identified risks, evaluate the probability and impact and prioritize addressing each risk.	n/a	n/a	Low	1 - 3
32	High	Clarify cyber insurance requirements from the insurance company including what is required for compliance and what Central Huron must do should a cybersecurity incident occur.	n/a	TBD	Medium	1 - 3

Figure 10: ITSDR Work Plan

Appendices

8.0 Appendices

8.1. Appendix 1 – Tables and Figures

8.2. Appendix 2 – Role of the IT Steering Committee (ITSC)

8.2.1. Introduction

An ITSC can take many different forms. For Central Huron, it is recommended that the Senior Leadership Team take on this role as there will be important business decisions that the leaders of the organization must address.

With this new vision and plan, there is the opportunity to enhance the organizational understanding about what it takes to deliver successful technology solutions.

By having the leadership team make the critical decisions, they can be sure that all technology projects align with corporate goals and solutions can be fully leveraged by multiple departments, reducing the need for many department-only solutions. Furthermore, the Municipality will work to ensure that selected initiatives are delivered successfully – using industry best practices around project management, business process design, and change management frameworks.

The ITSC should be responsible for three core functions:

- Priority setting, resource allocation, policy development and review, and approval of recommendations for key initiatives and strategic decisions.
- Holding IT and the business departments accountable for service delivery, both operationally and for projects.
- Annual review of the ITSDR, IT program and assessment of value delivered to the organization.

Terms of Reference (TOR) should be developed by the committee as one of its first tasks.

8.2.2. More Specific ITSC Responsibilities

- IT Policy and IT standards review, approval, exceptions and enforcement.
- Expenditure review and trends analysis.
- Approval of major initiatives.
- Major project updates (top 5 projects) at defined milestones.
- Approval of any project change above 25% (time, money, resources).
- Review the progress of the ITSDR and make necessary adjustments based on organizational priorities.

8.2.3. ITSC Mandate

- The Committee shall meet at least six times per year.
- The Committee shall review all proposals for IT investments with projected costs over $50,000.
- All proposals must be pre-reviewed for technological merit by IT.
- All proposals must be complete, according to the standard business case/project charter, to include clear definitions of business measures and benchmarks of progress. This will include cost/benefit analysis and clear calculation of Return on Investment (ROI).
- All proposals must align with the ITSD recommendations.
- ITSC has the authority to reject or defer any proposal which it deems not to have made a sufficient business case or which does not significantly contribute to the strategic goals of the Municipality.

- At each meeting, the Committee will receive progress reports on all approved proposals. The Committee can recommend the termination of any project that is not meeting its projected goals.
- Each year the Committee will provide the CAO and Council with a report that will review project progress of the previous fiscal year and set a priority list of projects for the coming fiscal year.

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