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TO:	**GENERAL COMMITTEE**
SUBJECT:	**BUSINESS CASE FOR ENTERPRISE RESOURCE PLANNING (ERP) SOFTWARE**
PREPARED BY AND KEY CONTACT:	**E. ARCHER, CMA, GENERAL MANAGER OF CORPORATE SERVICES**
SUBMITTED BY:	**E. ARCHER, CMA, GENERAL MANAGER OF CORPORATE SERVICES**
	R. FORWARD, GENERAL MANAGER OF COMMUNITY OPERATIONS
CHIEF ADMINISTRATIVE OFFICER APPROVAL:	**C. LADD, CHIEF ADMINISTRATIVE OFFICER**

RECOMMENDED MOTION

1. That in response to the analysis and evaluation by Deloitte, the business case presented in Report EMT003-12, "Business Case for Enterprise Resource Planning (ERP) Software" be approved and funded by the Enterprise Resource Planning capital budget.

2. That project workplan and status updates be presented to General Committee not less than every six months, with the first update to be presented no later than the third quarter of 2013.

PURPOSE & BACKGROUND

3. The purpose of this report is to present details of a business case to support the Enterprise Resource Planning ("ERP") capital project approved as part of the 2011 Capital Budget. Motion 11-G-072 approved funding but called for a business case to be presented prior to any expenditure. Report EMT002-11 (December 12, 2011) recommended, and Council approved, the use of up to $450,000 to produce a detailed business case and to report how an ERP would support specific corporate information needs, processes and service capacity. This report provides a summary of the key features from the business case.

5. An Enterprise Resource Planning system ("ERP") is software that replaces many stand-alone systems and manual work processes and integrates the functions into an automated system based on a centralized database accessible across a corporation. ERP reflects a strategy where business process information and financial information are seamlessly linked, resulting in the elimination of non-value added administrative work and duplication of effort, new opportunities for self-serve data inquiries by customers and employees, improved organizational efficiency and significant improvements in an organization's ability to support strategic goals in a proactive, comprehensive way.

6. Following a Request for Proposals, Deloitte was selected to work with staff to develop the independently analyzed business case and assess the corporation's readiness for the changes that would be required to make an ERP implementation successful. Through a series of staff interviews, workshops and documentation reviews, the objectives of the analysis were to quantify the value of benefits expected from an ERP system, identify process improvement opportunities and recommend an approach for successfully realizing them.

7. Report EMT002-11 and a memo from the CAO dated March 21, 2011, as well as numerous ad hoc discussions with Council described the factors influencing EMT's recommendation to pursue an ERP strategy. Briefly, the City's financial system consists of separate, non-integrated systems

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requiring expensive and inefficient manual steps to complete transactions. It does not meet the business needs of our residents, customers or clients. Council's and staff's ability to properly manage the City's financial condition is impaired because current information systems are fragmented, incomplete and not providing timely information. Service levels are lower and less efficient than they could be because work processes and information systems are incapable of meeting the demands placed upon them.

8.   While members of Council or the public may not "see" these issues, that is due to staff making extra efforts to address their information needs. The corporation cannot continue relying so much on individual talent and personal effort from people to compensate for systems that are not up to the job. Our staff cannot maintain the pace it will take to stay on top of all the issues the corporation needs to manage without better information systems and more automated workflows. They will get burnt out, or they will leave. Either way, performance across the board will suffer.

9.   The inadequacy of corporate information systems to support business needs presents an increasing and significant risk. For the last three years the City's (now former) auditor, BDO, noted this risk in its annual management letter as part of the corporation's financial statement audit. The potential for errors and fraud is higher than the auditors, and staff, believe Council should be willing to accept.

10.   The Executive Management Team believes the status quo is not a viable solution over any time horizon. But especially considering the corporation's long-term needs, building a proper, comprehensive and robust ERP now avoids significant future costs.

ANALYSIS

11.   Over the next ten years, operating benefits from implementing an ERP worth $15.5M exceed the capital and operating costs of $14.3M associated with selecting, designing, installing and operating the system. This reflects insights obtained to date from the analysis completed by Deloitte in collaboration with staff from across the organization. It is based on other organizations' ERP implementation experiences and a review of process changes, cost saving opportunities and cost avoidance opportunities that can occur within the City of Barrie.

12.   Process mapping exercises of over 40 workflows have been completed. From a review of these workflows and Deloitte's analysis of the potential changes that could be made by introducing an ERP, several improvement opportunities have been identified. Staff are confident these changes are not only achievable, but also that the descriptions of the benefits they will provide are conservative. Appendix "A" provides some examples.

13.   Without an ERP, it is likely that the risks described here and in Deloitte's analysis will be higher, as the talented staff the corporation has relied on to compensate for the inadequacies of current systems decide to move to other employers where systems exist that more appropriately support their job requirements. With the relatively high level of manual processing required to support municipal services, the loss of key staff would negatively impact service levels.

14.   System selection, design and implementation is expected to take approximately three years. Benefits will accrue as components of the system are put into use. Staff anticipate regular progress updates to Council throughout the project will ensure everyone interested in the project's outcomes have an opportunity to measure and assess the actual benefits received.

Tangible Financial Benefits and Risk Management

15.   An ERP provides both cost reduction and cost avoidance opportunities. Deloitte estimates avoidable current costs in excess of $700,000 are achievable simply by eliminating the need for maintenance support on existing financial systems. Further, an additional $1.8M in avoidable

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costs are possible by reducing the pace of FTE hires that would otherwise be required to properly manage the corporation's anticipated growth plans and avoiding costs to upgrade systems that would be replaced by an ERP.

16.   By increasing the quality, timeliness and detail associated with operations, an ERP also reduces the corporation's general costs of goods and services. Through automated procurement activities, improved vendor management and stronger contract management opportunities, an ERP can produce efficiency improvements worth an estimated $12M over the next 10 years. This is a conservative estimate. With the growth in capital spending associated with the annexed lands, an ERP will help avoid the need for, using today's workflows, hiring additional resources to manage the increased procurement activities.

17.   Well-designed ERP systems are reliable, consistent and efficient. While it is important to recognize and track actual financial benefits obtained from an ERP, it is also important to note that it is just as important, or more important, to pursue an ERP implementation because of the risk mitigation and process improvements it can provide. Reducing reliance on manual processes and key staff for routine transaction processing not only strengthens controls, but it also improves process reliability. Staff are confident these benefits will be produced and the commitment to realize them is high.

Improved Front-line Customer Service

18.   An ERP creates the opportunity to modernize routine administrative transactions and approvals. Unlike today, where paper copies of invoices, reports and other documentation are routed throughout the organization for review and approval, an ERP makes it possible for electronic routing and approvals. This not only improves the organization's efficiency, but it also increases the potential to create timely, accurate and complete management reports. The result will be financial and workload management data that help reduce the response time to Council or customer service requests.

19.   Municipal regulatory requirements continue to grow in both scale and complexity. Adherence to new financial reporting and operating standards that require the municipality to demonstrate compliance with infrastructure performance, capital project management activities and staff training levels are not sustainable with our current systems. An ERP will not only support these activities, but will also make compliance reporting an efficient exercise that requires significantly less staff time than what is required today.

20.   With the prevalence of the internet and variety of electronic service delivery channels the need for a transparent, open and online government continues to grow. Data about municipal government programs and services is now a valuable commodity in its own right. Employees, e lected officials, business partners and constituents expect the corporation to provide self-service tools and data online. Application systems must be integrated and robust to support the new tools and online services.

Establishing Efficient, Appropriate Internal Controls and Oversight

21.   The corporation's existing information systems were not designed to manage current transaction volumes or complexity. The scale, scope and technical requirements of the city's businesses have increased since current systems were first installed. To compensate, and to ensure resources are properly managed, staff have introduced several manual checks and balances in work processes. In most other organizations, such controls are automated but in the City of Barrie they are not.

22.   Where a typical organization of the City of Barrie's size automates approximately 50%-60% of its workflows, Deloitte noted that only about 10% of Barrie's process steps are automated.

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Significant effort and paper is required to manage program performance. This increases financial and reputation risk and limits managers' capacity to assess long-term or strategic issues. With information dispersed throughout so many systems, the complete picture of performance necessary for making effective, successful plans and ensuring actual results remain aligned with them relies on significant individual effort from the leadership team. This is not sustainable.

Modernizing Key Management Information Systems

23.   There are approximately 190 software applications throughout the corporation that capture, store and process information for various programs and services ("legacy systems"). This includes **48** separate applications that capture financial information. Of these, 45 (94%) are not integrated, which means staff need to manually reproduce or copy data between systems to compile useful information for corporate decision making. In addition to the risk that information is incomplete or inaccurate, the current environment is inefficient, not timely and takes resources away from daily service delivery and complex long-term planning requirements.

24.   Implementing an ERP will allow the corporation to have timely, reliable and useful information about service efforts and results that is managed using consistent, appropriate controls to safeguard against the risk of fraud or error. By integrating all facets of the business across all departments and functional processes, workflows produce timely, accurate and complete information that do not require expensive and inefficient manual intervention. ERP will make it easy for residents, suppliers and other interested stakeholders to access, view and manage the vast information collected about municipal programs and services on their own.

Implementation Scope For A New ERP

25.   Deloitte recommends selecting and installing a new ERP. This includes replacing the corporation's current financial system and implementing a human resource system to support activities related to managing the corporation's employees (including payroll). It also recommends a Request for Proposals be issued to identify a new ERP system. Proposals will identify solutions that provide:

a.   Integrated customer data – staff from across the organization will be able to access common information about constituents to obtain a full picture of the corporation's relationship with them. For example, residents inquiring about property taxes can also address questions about their recreation program registrations in a single visit or phone call; suppliers and staff can readily identify all of the invoices and payments related to a single supplier via a simple, online report that ensures payments are timely, complete, accurate and appropriate.

b.   Service improvements and new service delivery channels – integrated information from an ERP will increase online and self-service opportunities. From online payment processing for residents to electronic supplier payments, and ERP provides opportunities to introduce service levels that are typically found in midsize municipalities. This will reduce transaction processing costs and increase convenience for customers.

c.   Improved financial management – automated workflows and approvals will replace manual processing activities and significantly improve the timeliness, accuracy and efficiency of transaction processing. This will reduce risk and increase the potential for appropriate cash management activities that maximize investment returns and properly manage debt levels.

d.   Stronger management oversight – budget management and forecasting will be supported by new reports that increase accuracy and manager responsiveness. The financial implications of pending decisions will be easier to visualize and anticipate, and the

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potential for significant variances from planned results will be reduced. This will help ensure resource allocations decisions during budget development reflect accurate, complete information.

<u>ERP Project Approach</u>

26.   Generally, implementation includes the following steps:

   a.   Establish a dedicated project team and project plan – initially, this includes hiring a Project Manager with experience in developing and implementing a municipal ERP system. Once selected, a project plan is to be established and a project team assembled. If Council approves the motions recommended in this report, staff seconded to participate on the project team will have their positions backfilled to ensure sufficient support for the ERP implementation. The project plan will include tasks, deliverables, scheduling, implementation and other associated project details.

   b.   Define detailed specifications – this includes identifying the particular functions the ERP system must be able to perform. Typically, the result is a document that lists several thousand specific requirements. All affected departments will participate in this work.

   c.   Issue a market solicitation – this includes issuing a Request for Proposal to identify specific options about suppliers, scope, costs and project timing, evaluating proposals and making a decision about whether/how to proceed.

   d.   Design, implement and test software – this includes making decisions about the specific internal controls, workflows and business rules the ERP system will use once deployed. Existing processes will be redesigned to reflect the "best practice" processes that ERP systems are designed to employ. Following software implementation, redesigned processes will be tested by staff to ensure appropriate configuration and effectiveness.

   e.   Communications and training – this includes creating awareness and preparing staff to use the new ERP software, transitioning from the current financial software.

   f.   Deployment and measurement – this includes making the ERP system available for use on a regular basis. Once deployed, benchmarking and performance measurements will be compiled and reviewed to ensure the ERP system and staffs' use of it function as planned.

27.   While an ERP system implementation involves the entire corporation, the work occurs in phases according to how the modules of the system are deployed. A required starting point is the financial modules, followed by choices for other modules that reflect EMT's and the Project Team's advice about which modules, or which parts of the corporation, to deploy next.

<u>Conclusion</u>

28.   Deloitte's evaluation concludes the value of the benefits from implementing an ERP are higher than the anticipated costs, and generally include:

   a.   Addressing unmet service needs

   b.   Improving service levels

   c.   Reducing or avoiding costs

29.   The most significant return from an ERP system will be overcoming the weaknesses of existing systems/manual processes and providing much-needed tools and functionality. By developing a

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modern, integrated system to support programs and services, the corporation will realize improvements that are both quantitative and qualitative.

30.   The City of Barrie spends more than $300 million annually and is accountable for managing several billion dollars' worth of assets using many paper-based, labour intensive systems. Pursuing an ERP strategy requires proprietary, multi-module software applications to improve, standardize and automate a wide range of municipal operations. It requires a substantial, multi-year project that integrates processes across all departments and substantially reduces, if not eliminates manual, paper-based systems. As large and challenging as this project will be, it is fundamentally important for the corporation's continued success in areas of service delivery, customer response and the management of our assets, finances and organizational performance.

ENVIRONMENTAL MATTERS

31.   There are no environmental matters related to the recommendation.

ALTERNATIVES

32.   There is one alternative available for consideration by General Committee:

Alternative #1   General Committee could reduce the scope of the ERP project. However, at a minimum, the corporation's financial and human resource systems need to be updated.

By reducing the scope, however, the corporation perpetuates its reliance on independent systems and manual workflows to support its programs and services. The Executive Management Team believes this is not sustainable over any time horizon. An ERP provides broad-based functionality that can enable productivity improvements, transparency and accountability for at least the next ten years. It reduces the fragmentation of systems we currently use and provides interested stakeholders (including residents, members of Council and staff) with easier access to information about the City's programs and services on a timely basis.

FINANCIAL

33.   There is an approved budget of $9.9M, with funding provided by the Tax Capital Reserve. At this time, despite the slightly higher cost estimate used by Deloitte for the business case, staff do not recommend any adjustments to the approved budget. Subject to the results of the RFP, where actual costs will be determined and more precise project phasing can be established, staff recommend the financing plan remain unchanged. As noted by paragraph #2, regular updates will be provided that, among other details, track actual benefits realized.

LINKAGE TO COUNCIL'S STRATEGIC PLAN

34.   The recommendations in this report are fundamentally important for supporting Council's goal to strengthen Barrie's financial condition.

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APPENDIX "A"

Examples of Process Improvement Opportunities From An ERP

Real-time data access for residents via integrated systems

With multiple standalone systems in use to store various data required for program delivery, manual intervention is required to combine the information into a form that makes it useful for customers, Council and staff. This creates data production delays that result in reports that are not timely and information that is less reliable.

For example, the CLASS system used by the Recreation, Facilities and Transit Department for program registration captures some information required to evaluate facility utilization levels. Maximizing facility utilization reduces the subsidy required to sustain recreation programs and services. Today, calculating utilization and subsidy levels involves manually combining registration information, facility information and financial information- from three different data sources and systems. This manual compilation results in delays and late notification to residents when programs are cancelled due to insufficient registration levels and/or providing higher subsidies than planned because the information about actual costs was not timely.

With data stored in an ERP system and reports available on demand, residents would enjoy more timely information about program registration levels, fees that reflect timely, accurate information about costs and on-demand access to information about the City's programs and services. Managers would have real-time information and quick access to key financial details to ensure programs are meeting community needs and delivering the expected level of non-tax revenues.

Automated workflows to improve cycle times, increase quality and reduce re-work costs

Standalone application systems force reliance on desktop software like Excel and other products for the collection and assembly of information. This results in redundant data entry and manual efforts as information is taken out of one system and entered into another, or joined into an independently prepared report. A variety of manual processes exist throughout the Corporation to support various business functions.

For example, staff manually complete timesheets throughout the Corporation. Timesheets are a standard, common method for controlling payroll costs and managing staff time to ensure program and service levels are met. Today, timesheets are manually completed by employees and after review/approval by supervisors, compiled by administrative staff and entered into multiple databases. Some of this data entry is duplicated to support the budget development process. None of the current information provides a comprehensive, organization-wide picture of whether staff time is efficiently deployed. With an ERP system, routine processes can be established that take only minutes per day to complete, with electronic workflows that automatically send the information to job costing, payroll, and other reports. This creates the opportunity for the FTEs currently dedicated to payroll processing to be redeployed to managing front-line customer service requirements.

Proper reporting tools for a corporation responsible for more than $300M in annual spending

Current systems lack sufficient querying tools, making it difficult for residents, councillors and staff to review information about municipal programs and services. Most management reports require manual interventions by staff to be produced.

For example, the Corporation's tangible capital assets have a replacement value worth in excess of $3 billion. There is currently no systematic way to produce a report that lists all of these assets (the "asset register") and provide key details about their cost, expected useful life and other related information. This is necessary for both financial reporting and asset management purposes. From a data capture

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perspective, staff must manually review as-built drawings/plans and enter the information to create the asset register. Considering other workload commitments, asset register information is currently as much as six months' out of date. This has negative implications for the Corporation's budget, as it reduces the ability to match amortization expense with lifecycle spending and accurately forecast operating expenditures that are required to support capital assets. With an ERP system, asset register information would be automatically updated once capital projects are closed or work orders are complete. This would make information about asset condition and decisions about which projects to include in future capital budgets more timely and accurate.