Mosaic

An Introduction for Faculty Members

November, 2013

McMaster University Mosaic

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2 Summary

McMaster faculty members will notice a substantial change to administrative operations when the University's new financial system launches in December 2013. This briefing paper summarizes the forthcoming changes focusing on how those changes will impact faculty members generally and principal investigators for research projects in particular. It looks at several areas of high impact: electronic workflow, employee reimbursements (travel and expense claims), research account management, and purchasing. Further it offers a number of suggestions on managing the transition to the new system and lays out the University's plans for the change. The briefing cautions that a transition of this magnitude will inevitably encounter some glitches and offers support details. Finally, it asks for the understanding and patience of faculty members during the transition.

3 McMaster's New Financial and Research Finance System

This briefing paper focuses on the new finance and research finance system that will be introduced in December as part of Mosaic. For background about the larger project, including timelines and scope, refer to Appendix A.

3.1 Overview of the System

The new software, PeopleSoft Financial Tools, is a modern, state-of-the-art, industry standard system, used by many of McMaster's peer institutions, such as Queen's University and the University of Western Ontario. This system is designed for large organizations like a university. Realistically, McMaster is a complicated place, and a system that can deal with the University's needs will itself be complex. PeopleSoft will replace the systems McMaster currently uses, including FAS, Walker Purchasing and e-Reports. The University's Chart of Accounts, what many people think of as an account number, will change. As mentioned earlier, Mosaic is more than the PeopleSoft software. It's also about improving McMaster's administrative processes. Several processes will change when the University introduces the new software. Travel and expense claims, purchase requisitions and accounts payable will all have new software tools and new processes. The new system is web based and is accessed it using a web browser[1]. It's like visiting a website. Users will login with using their MAC ID[2].

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[1] "End-user, computer software requirements to access PeopleSoft ," website of McMaster University, http://www.mcmaster.ca/mosaic/systems/user-sys-req.html .
Generally, users will be able to access the new PeopleSoft system with a recent version of any of the major web browsers; however, there are a few exceptions.

[2] MAC IDs should never be shared! If a user needs someone else to perform functions for them, there is a process/tool within PeopleSoft to authorize a delegate. A MAC ID provides access to all of a person's personal information, including pay and benefits information. Users are responsible for actions taken with their MAC ID.

3.2 High-Level Benefits of the New System

3.2.1.1 Up-to-date Information

PeopleSoft will provide faculty members with timely information. . No longer will users have to wait for a month-end report that arrives weeks after the end of the month. Some types of reports provide information up to the end of the previous day. Other portions feature real-time information. For example, when a purchase order is paid the corresponding ledger will immediately show a debit.

3.2.1.2 Book of Record

Currently McMaster has multiple systems that often give slightly different answers to the same question due to differing data definitions and lags in cross system data transfer. The new system will become McMaster's definitive source for information.

3.2.1.3 Electronic processes rather than paper

In a world where email has replaced paper letters, this may seem like an advance that is long overdue. The new system will replace many of the paper forms that faculty members currently sign with electronic documents that are approved electronically. Not only does this save paper, it speeds up the process (no waiting for inter-office mail) and provides users with real-time information about who has or has not approved a transaction.

3.2.1.4 Integrated

PeopleSoft integrates multiple financial functions, allowing users to track expenses and revenue with less effort. For example, exploring why a ledger line is over or under budget currently requires multiple systems to track an expense. PeopleSoft features so called "drill down" technology that lets a user select a ledger line to see the underlying entries. The user can drill down through the sub-ledgers to original transactions, such as a purchase requisition, if needed. The integration also enables new tools for researchers to manage their research funding (see section 4.3).

4 Specific Changes

The new system will introduce many changes, big and small. With this project, McMaster is advancing through 30 years' worth of technological innovation. The following sections highlight some specific changes that will be of particular interest to faculty members, especially those who are principal investigators.

4.1 Electronic Workflow (Review and Approve)

Electronic workflow is perhaps the single largest change that principal investigators will encounter. It will streamline the process of reviewing and approving transactions. The majority of financial approvals a principal investigator or delegate would currently sign today will be replaced by electronic approvals. Tri-council guidelines require McMaster to "ensure that each expenditure and charge made to the Grant or Award account is authorized by the Recipient, or by their delegate if the delegation is clearly documented."[3] Thus, in the new system every charge that is placed against a research project must have a corresponding electronic approval. Electronic workflow will make it easier for faculty members to manage reviews and approvals providing both tracking of outstanding items and a record of previous work. The user will be able see the approval chain for a transaction including who has already approved it and whose review is still outstanding. Notably, users can see who has approved a transaction and who still needs to review it. It should be stressed that it is a principal investigator or delegate's role to *review* and make a decision regarding approval. Reviewing and approving is a serious responsibility for any grant holder under Tri-Council guidelines.

In practice this will mean that a principal investigator or delegate will need to regularly log-in, review requests for approvals and approve if appropriate. The system will send email notifications about waiting approvals, if that is the user's preference. For example, if a collaborator submits a purchase requisition that charges to a research project, the principal investigator or delegate would need to electronically approve that purchase request before a purchase order can be issued. Modules such as travel and expense claims will also utilize workflow.

4.2 Account Numbers Replaced by Chartfield Strings

For decades, McMaster has had a three-part, ten-digit account number. While adequate in its day, McMaster has out-grown the system and indeed has run out of numbers for research accounts. The introduction of PeopleSoft is an ideal time for McMaster to replace this system with a modern chartfield system, featuring more digits and more fields. Current account numbers have been converted into the new formats. To ease the transition to the new system, an online tool for users to translate legacy account numbers to chartfield strings will be available.

4.3 Research Account Management

How much money do I have left in this research account? This is a perennial question that McMaster's research accountants frequently hear and have often been hard pressed to answer. PeopleSoft will introduce new project costing and grants management sub-systems. These modules capture information related to research projects, bringing all the information together in one place. It will provide principal investigators with up-to-date account balances, including funds spent and funds encumbered. It will receive information from the general ledger, purchasing, travel and expense, payroll and accounts receivable modules and also allow entry of budgets and project attributes at the module level. The PeopleSoft system will include significant new flexibility for configuring projects, particularly projects that include multiple investigators. Orientation sessions for this functionality will be held in the new year.

The system will have new functionality of particular interest to faculty members. There will be a "Portal" for researchers to access the system which will provide quick access to information about a user's research accounts. The portal features a simplified and streamlined interface. The system also features so called "drill-down" technology which allows you to move from summary level data to detailed information and on to individual transactions. Instead of monthly reports, there will be daily access to balance information. There will be an integrated accounts receivable system which will be a benefit to areas that perform fee-for-service work.

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[3] "Agreement on the Administration of Agency Grants and Awards by Research Institutions," Government of Canada, last modified February 8, 2013, Section 3.3, http://www.science.gc.ca/research_funding_collaboration/policies_and_guidelines/institutional_agreement-ws56b87be5-1_en.htm

Looking forward to May 2014, Mosaic will launch additional pre-award functionality that will partially automate the process of applying for research grants.

4.4 Employee Reimbursements (Travel and Expense Claims)

Along with a new computer system, Mosaic is introducing some significant process changes to travel and expense claims. In combination, these changes along with the addition of electronic workflow should lead to faster reimbursement times. There are several notable changes:

- Expenses will now be reimbursed as they are incurred
- Claims submission will utilize electronic workflow and will be electronically routed to the claimants approver for review
- Diners Club MasterCard (McMaster's travel credit card) charges that are approved for reimbursement can be paid directly to Diners Club by McMaster electronically
- Receipts will be electronically scanned and attached to expense claims with physical originals sent to the McMaster Downtown Centre for archiving (no need to retain a local copy)

The first point warrants further discussion. Currently, McMaster waits until a trip is completed before reimbursing any expense for that trip, including flight costs that may have been incurred months in advance. The new process will now reimburse expenses as they are incurred (appropriate documentation and justification are still required). Original receipts must be sent to Accounts Payable for reconciling, archiving and auditing once the conference or travel is completed. Activities should not be paid for more than eight months in advance. Travelers can use their Diners Club MasterCard to withdraw cash from an ATM, if needed. McMaster has negotiated a reduced rate on cash withdrawals against the card.

The new process has been streamlined to ease the use of the McMaster Diners Club Card, which is now the University's preferred way for employees to pay for travel expenses.[4] Card transactions will be loaded nightly into PeopleSoft and can be electronically linked to travel and expense claims. Cardholders can view their transactions the next day and link them to a travel claim. Once a claim is submitted McMaster will pay the portion of the claim that was charged to a McMaster Diners Club MasterCard directly to Diners Club. Combined with electronic workflow, this process should speed up the processing of travel and expense claims.

Consultations with the McMaster community revealed a variety of preferences among faculty members regarding the preparation and submission of claims. The new system will allow faculty members to submit their own travel and expense claims or they can delegate that task to an assistant. Faculty members who are going to delegate their claim submissions will need to set-up a delegate in PeopleSoft. (There will be a guide for this activity.) Departments are free to set their own standard of practice.

4.4.1 A Hypothetical Travel Claim

To clarify, consider a hypothetical travel expense claim. Sally rents a car with her McMaster Diners MasterCard, travels to Sarnia for a meeting, has lunch and returns to Hamilton. Sally has three receipts: a car rental receipt and a gasoline purchase receipt both paid for with her McMaster Diners Club MasterCard and a receipt for lunch which she paid in cash. The next day she, or her delegate, logs in to

[4] Faculty and staff (any individual with an employee number) who travel frequently on McMaster business are asked to use the McMaster Diners Club MasterCard for University travel and expenses. An application for this card is available at: http://www.mcmaster.ca/bms/pdf/dinersclub.pdf .

the PeopleSoft system and starts a new request for reimbursement/travel claim. The two Diners Club MasterCard charges are in the system and she can link them to the claim. She then manually enters the lunch receipt. She scans all three receipts and electronically attaches them to her claim. She sends her original receipts to Accounts Payable using the new travel and expense claim envelopes. When she submits the claim it is electronically sent to her approver(s). Once they have reviewed and approved her claim, the portion that was charged to the Diners Club MasterCard will be electronically paid directly to Diners Club by McMaster. The cash portion will be paid to Sally.

4.5 Purchasing

The principals of purchasing remain similar in the new system; however, the practice will change substantially shifting to an electronic workflow as discussed in section 4.1.

4.5.1 Purchases Requiring a Purchase Order

Paper requisition forms are being replaced with an electronic form and approvals will utilize electronic workflow. Electronic approvals will follow the University's Execution of Instruments Policy.[5] Three-way matching[6] for purchases exceeding $10,000 will be required. Purchasers who directly receive goods or services must enter receipt of those goods into the PeopleSoft system to initiate supplier payment.

Financial administrative assistants, supervisors and managers at McMaster, typically process purchasing activities in the financial system; however, there are a few areas where faculty members enter their own purchase requisitions. This option will remain. Faculty members who want to enter requisitions are strongly encouraged to take the Purchase Requisition and Receiving course.

4.5.2 Purchases Not Requiring a Purchase Order

Small dollar-value purchases will continue to have a number of options: an invoice can be submitted; the purchase can be paid for using a McMaster BMO MasterCard commonly called a Purchase Card (P-card); petty cash can be utilized; or finally it can be purchase and submitted as an expense claim. Each of these methods retains their pros and cons, except for the P-card which has been streamlined.

McMaster's purchase card (P-card) program uses a BMO MasterCard (don't confuse this with the Diners Club MasterCard for travel). The BMO MasterCard will now feature electronic reconciliation. Each month, the transactions from the BMO MasterCard will be electronically loaded into the PeopleSoft system. This significantly reduces the data entry burden of using the P-Card. Consequently, the P-card is now the preferred method for making small dollar-value purchases.

4.5.3 System Contract Purchases

Purchases made on system contracts will be paid for in a different way with the new system. These are purchases from entities such as Grand & Toy and Fisher Scientific. To purchase something from one of the system contract suppliers, either a purchase requisition must be submitted or the item may be paid for with a P-card. The previous system of giving a supplier an account number will no longer be supported.

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[5] "Appendix E: Resolution Respecting the Execution of Instruments by McMaster University," By-laws of the Board of Governors of McMaster University, (October 18, 2012) , 47-55 http://www.mcmaster.ca/policy/General/Financial/Execution-Instruments.pdf

[6] Three-way matching confirms an invoice is valid by matching it to a purchase order and a receiving document. If the three match, the invoice is approved for payment.

This process change is intended to enhance McMaster's ability to track purchases and confirm charges are correctly allocated.

5 Preparing for the Transition

Mosaic and the adoption of PeopleSoft financial tools represent a significant change for McMaster. Ultimately, McMaster will have a more effective system that better meets its needs. However, it would be unrealistic to think that this will be an easy transition. It will require hard work by many segments of the University. It will require effort to learn the new system. There will be so called "teething problems." It will temporarily disrupt the business of the University. These challenges are part of the effort required to get a more effective system for McMaster. The project team has taken steps to reduce these challenges but the challenges cannot be eliminated. Key mitigation steps include training and learning opportunities, and the establishment of a post-launch support program.

5.1 Learning and Training

At last count there are more than 2,600 people who will need to use the new finance and research finance system in a way that requires some sort of orientation, instruction or training. The type of learning will vary greatly depending on someone's role and the tasks they perform.

- Faculty members who will only review workflow requests and will delegate other tasks may find that two online courses requiring approximately an hour to complete will be sufficient orientation to the system.
- Faculty members who do tasks such as submitting their own expense claims may need an additional one or two hours of orientation using online tools.
- Faculty members who wish to perform more sophisticated functions in PeopleSoft, such as completing their own purchase requisitions, are strongly encouraged to attend the corresponding courses.

The project team expects faculty members will use their own judgment to decide what learning or training is appropriate for them. Some faculty may receive email invitations to participate in learning or training sessions based on their historical and predicted future use of the system.

The project team asks that faculty members recognize that staff will be occupied in training through November and December and possibly into the new year. A typical financial administrative assistant who performs a wide variety of financial tasks will likely need 15-20 hours of training in a combination of online and classroom settings. Providing staff with training is an investment that will help McMaster transition to the new system. The Mosaic team has taken steps to condense the volume of training required to prepare users for the new system. It has assembled a mix of online and classroom sessions to maximize learning opportunities while reducing individual time requirements.

5.2 Support

Despite the project team's best efforts, there will be rough patches and glitches when the new system launches. The project team has tried to reduce these but some are inevitable. For example, experience at other universities suggests that the most common problem users will encounter is not having the correct form of access. To address these transition issues, Mosaic will establish an enhanced support program to rapidly respond to problems that users encounter. The enhanced support period is anticipated to last two months. It will include various levels of support including a call centre, quick reaction teams and super users.

6 What to expect

As the new system launches in December there will be a series of noticeable impacts on the University. At the most concrete level a number of processes in the legacy systems will be shut down in the weeks preceding the system launch. Notably, travel and expense claims and some purchasing activities will be unavailable in the last two weeks of November.[7] At a broader level, there will be a learning curve as people switch to the new system and begin to relearn how to perform their everyday tasks. Please be patient with folks who are in the midst of that learning curve, be they faculty or staff. It will take months to for the transition to fully play out and for system users to adapt to the new system. Many of McMaster staff have decades of experience with the legacy systems. The training program will help them learn the new system but it will take time for them to become fully proficient again.

Ultimately, the project team asks for the support, understanding and patience of faculty members as McMaster makes this significant step.

7 Contacts

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[7] Dee Henne, "*Mosaic Cutover Memo*," website of McMaster University, (October 15, 2013) http://www.mcmaster.ca/mosaic/documents/memo-financial-cutover-dates.pdf . This memo contains a complete list of cut-off dates for process in the legacy systems.

Appendix A Background and context

Many of McMaster's current core information systems are at the end of their useful life. Of the 20-plus systems that form the backbone of the University's information systems, many:

- are obsolete and expensive to maintain
- were designed for a smaller, simpler university
- hold data in formats that limit information and reporting capabilities
- are ill-equipped to accommodate increasing regulatory compliance requirements
- are not integrated and, as such, require manual intervention for upkeep

Notably, two of McMaster's critical systems, the financial accounting system and the core student registration system, were implemented in the early 1980s and are based on outdated mainframe technology. The student system is operating at its peak capacity and cannot accommodate future growth. These systems no longer meet current standards and are straining to fulfil their role. In short, McMaster has grown and changed. Its current systems no longer meet the University's needs.

The project to resolve these issues has a long history at McMaster with several years of work[8] leading to the decision to implement an enterprise resource planning (ERP) system, the selection of Oracle's PeopleSoft software as McMaster's ERP and the selection of Deloitte as the system integration consultant. The project began active development in October 2012 and was named Mosaic.

Mosaic will enable McMaster to support its current and future academic, research, and administrative support needs, such as enhancing the student experience, supporting student growth, improving routine workflows, and strengthening business intelligence. Without Mosaic, the University's currently non-integrated and outdated systems threaten to become unaffordable in the future as more and more effort goes into maintaining legacy systems, diverting attention from efforts to improve and enhance service.

A.1 Scope and Timeline

Mosaic will replace more than 20 legacy systems at McMaster, in the areas of:

- Finance
  - Includes general ledger, chart of account, and accounts payable, etc.
- Research Administration
  - Includes post-award and pre-award
- Human Resources
  - Includes payroll, benefits, and recruitment
- Student Administration
  - Includes admissions, registration, and financial aid
- Business Intelligence

[8] Those interested in the origins and early work should refer to the project's original backgrounder, "Mosaic Background and History," http://mcmaster.ca/mosaic/about/background.html.

This represents a substantial portion of the most foundational systems at McMaster. Systems that many other systems[9] rely upon. Further, this is not a project to simply replace one piece of software with another piece of software while doing everything the same. It is a project to modernize McMaster's administrative and business processes and then implement those refined process in PeopleSoft.

Changing all of these systems and modernizing processes at once was simply not feasible and a multi-year plan was developed to launch the new systems, beginning with the core finance and research finance systems in December 2013. The project will launch additional components over the next 18 months.

A.1.1 Launch Schedule for Mosaic

December 2013	Finance and Research Finance
May 2014	Research Administration (pre-award)
July 2014	Human Resources 1 (including payroll and benefits)
July 2014	Hyperion (budgeting system)
October 2014	Human Resources 2 (including recruitment and succession planning)
October 2014	Student Administration 1 (including admissions and supporting modules)
December 2014	Student Administration 2 (including course catalogue and scheduling)
January 2015	Human Resources 3 (enhances the self-service tools introduced in HR phase 1)
March 2015	Student Administration 3 (including registration, academic advisement, student records, financial aid and student financials)

A.2 Work To-date

The project has completed a significant amount of work to-date in each of the streams. The initial phase, called the Fit-Gap stage, brought subject matter experts from across campus together with the Mosaic implementation teams to comprehensively match the University's current business processes with the PeopleSoft software's capabilities. Over the course of approximately 170 workshops more than 300 members of the McMaster community reviewed various aspects of the new system in detail. This was followed by a design phase during which the project teams developed plans for configuring and ultimately deploying the new system. At this point the project began to see differences emerge in the patterns of activity based on the launch date of the various portions. For example, the finance and research finance teams finished their design work and began their build activities in late spring. In contrast, design activities for student administration, which is the most complex of the streams, ran through the summer.

[9] "Existing McMaster Application Inventory" website of McMaster University, http://www.mcmaster.ca/mosaic/systems/app-inventory.html
The project team has identified more than 200 additional software systems that manage some aspect of the university ranging from the photocopier payment interface software to the residence meal plan system and beyond. These systems were catalogued and plans established to mitigate or address the impact introducing PeopleSoft would have on these systems.

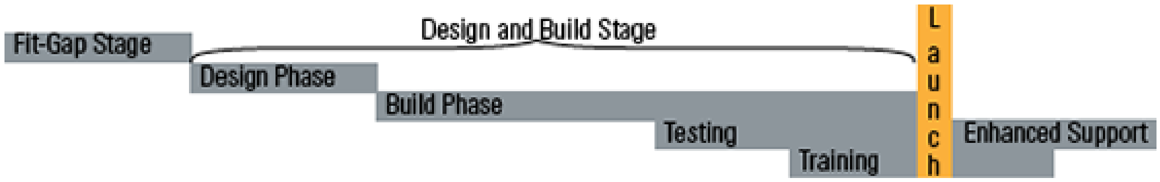

Figure 1 Project Stages and Phases

A.3 The Project Today

The design and the majority of build work has been completed for the finance and research finance streams. These two streams are now in the midst of user acceptance testing (UAT). During UAT, everyday end users will be asked to perform typical job tasks using the new system. Their feedback will be used to refine the system and ensure in meets the needs of a typical end user. At the same time the project team is working through many prelaunch tasks such as data conversion, preparing for end user training, and preparing post-launch support plans. The other streams are completing their design work and beginning build activities.