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Selection of a Computerized Maintenance Management System

The University of Saskatchewan was founded in 1907 and is located in the City of Saskatoon in the Province of Saskatchewan, Canada - the home of the Canadian Light Source Synchrotron Facility, the largest scientific project in a generation. The campus is situated on a 766 hectare site and comprises a building area of over 460,000 square meters. The Facilities Management Division (FMD) is responsible for the planning, development, design, operations and overall stewardship of all land, building and municipal and utilities infrastructure physical assets. These assets have a replacement value of over a billion dollars.

The Division consists of five main units: Campus Planning & Development, U of S Utilities, Plant Operations, Finance & Accounting and Business & Support Operations and is managed by an Associate Vice-President and five senior Directors. FMD provides a full range of services, including its own purchasing, central stores, furniture, moving, construction, utilities, consulting, tools crib, and fleet operations. FMD processes over 40,000 work requests a year and is responsible for over \$50 million annually, including: core operating revenues; minor and major capital projects; utilities revenues; and fee-for-service revenues from the campus academic, ancillary and tenant community. FMD's 500 professional, trades and clerical staff are managed thorough collective agreements.

The mission of the Division is “to provide world class, sustainable facilities in support of teaching, learning and research”. Two of its goals are “enhancing the quality of services to our customers” and “excelling in accountable management practices”. In order to achieve these, and other, goals, the FMD leadership believes that effective facilities management information systems fully integrated in design and utilization with strategic vision-quest engaging all staff and addressing all cultural and attitudinal inertial issues are critical. The Division had developed many systems over the years that were integrated or interfaced in some cases. However, the overall effectiveness of these systems was questioned and there was no long term plan for system development or leadership addressing vision, stewardship, performance, service, accountability and attitudinal issues.



Therefore, in the fall, 2001, FMD proceeded to upgrade its existing CMMS in a way that strategically blended human, technical and financial challenges. Past CMMS implementation and utilization was not successful due mainly to cultural and attitudinal inertia impacting strategic change, transformation and a much needed focus on stewardship, service and accountability. Staff had been permitted to “opt-out” or not become engaged with, or embrace, previous CMMS technologies and functions needed to do their jobs in new ways to be more accountable, transparent, customer-focused, efficient and effective. It was critical, therefore, that a non-traditional CMMS project development process be developed that dealt not only with technical and financial issues, but also dealt directly with fear, trust, respect and recognition issues underpinning all aspects of divisional operations, especially the CMMS. Sensitive, aware, empathetic, trusted and knowledgeable leadership and project management was critical to successfully selecting and installing the new CMMS. Although a significant technical, financial and logistical challenge, the human element of the project was the critical and most difficult aspect of the project.

An expert was needed not only in CMMS systems design, selection and implementation but a firm that understood and factored into the process the “soft” human issues of change, re-focus, trust, respected and fear was urgently required. Consequently, FmT Consultants Ltd. Of Calgary, Alberta, Canada was retained in the summer of 2001 to complete a gap analysis of each system and a long term plan for the development of an integrated system. The recommendations were reviewed and the upgrading of the CMMS (computerized maintenance management system) was selected as the top priority.

The CMMS is the core business system for the Division and includes work orders, preventive maintenance, asset management, purchasing, stores inventory management, timekeeping, project cost tracking and financial reporting capabilities. The original system developed in 1991 was based on a customized program that matched existing business processes and was successfully used by all work units. However, in the mid-1990’s, the software developer could no longer support the numerous customized versions and created a standard version instead. FMD purchased and installed the standard product in 1998. However, a needs assessment was not completed and there was minimal staff involvement in this decision. As a result, the system was not used on a consistent basis. Some work units implemented it fully whereas other units used it on a minimal basis due to the impact of the required revisions to their business processes. Because of this situation, FMD fell behind in implementing new product releases and was advised by the supplier that the version being used would no longer be supported in autumn 2001. Since user needs had not been defined since 1990 and the business of the Division had changed significantly in the last ten years, FMD was not certain that the existing product was best suited for its needs. Therefore, the Executive decided to complete a needs assessment, issue a request for proposal (RFP) for a new CMMS and invite the existing supplier to bid on it.



FMD realized that the product selection was a critical business decision that must satisfy business needs and be supported by staff in all work units. Two initial attempts to complete a needs assessment internally were not successful as the FMD staff did not have the time or expertise to do so. Also, the maintenance staff was concerned that the product selection was being driven by the information systems and financial reporting requirements. Therefore, FmT Consultants was asked to define a process that would provide a comprehensive analysis for product evaluation purposes and ensure maximum participation by FMD staff. The project commenced in October 2001 and these objectives were achieved.

This presentation will provide an overview of this project management process from the FMD Executive and consultant viewpoints and will include:

- The cultural and attitudinal inertia
- An environmental scan of what external threats FMD was facing and what were its internal strengths and weaknesses that the project process had to address
- The critical need to develop a powerful tool to manage in a more demanding and environment and the risks of not doing so as quickly as possible
- Defining the project purpose and objectives
- Identifying the project stakeholders and their paradigms
- Defining the roles of the Steering Committee, Evaluation Team and consultant
- Defining the reporting and decision making structure for the project
- Establishing channels, style and tone of communications
- Developing the project workplan and schedule
- Deciding on the required system capabilities and desired options
- Completing the needs assessment
- Summarizing the functional requirements of the system
- Structuring the format of the RFP to facilitate the product evaluations
- Preparing the RFP
- Preparing evaluation criteria and weighting factors
- Selecting recommended suppliers
- Summarizing the proposals in a user friendly format
- Evaluating the proposals
- Selecting the short list suppliers
- Co-ordinating the software demonstrations
- Competing the final product evaluations
- Selecting the preferred product
- Final pricing and contract negotiations
- Preparing the final project cost estimate
- Preparing a system implementation plan
- Providing the final project documentation for system implementation and record purposes



The final product selection was completed by thirty Evaluation Team members and eight Steering Committee members in May 2002. The FMD staff participated extensively in the entire process and had a clear understanding of the system capabilities and impacts during product selection. The product was purchased in June and the system is now being implemented. Superior leadership and management will continually be expected to ensure that the full capabilities of the CMMS be incorporated into all facets of the Division's operations and mind-set. The CMMS will be used as the foundation for continuous change and improvements throughout the organization in support of a dynamic university's vision that is responding to and leading a complex post secondary environment. FMD believes that the entire project was a success and will be using this project and change management approach for other process and system evolution.

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