



**CAUBO**

**2004**

**SASKATOON SASKATCHEWAN**

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# **How to Manage a CMMS Project in a Challenging Cultural and Organizational Environment**

**June 15th, 2004**

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**President, FmT Consultants Ltd.**

# Case Study

- **University of Saskatchewan (U of S)**
- **Facilities Management Division (FMD)**
- **November 2001 to May 2002**
- **Copy of the presentation at [www.fmt.ca](http://www.fmt.ca)**
- **Also a copy of the related presentation for the APPA/NACUBO conference in Nashville in July 2003**



# Learning Objective

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**“How to” use a non-traditional project management process to:**

- **Select a software product for a facility management information system**
- **Achieve cultural and attitudinal change for organizational transformation**

***Technology as a catalyst for change.***

# Format of the Presentation

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- **Background on the project**
- **FMD view of the project**
- **FmT approach to technology projects**
- **Project management process and techniques**
  
- **Q & A**

# About FmT Consultants

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- **Management consultants specializing in facility management & technology**
- **Located in Calgary, Alberta**
- **Established in 1993**
- **Independent, objective consulting service**
- **Most Clients are post-secondary educational institutions and other public sector organizations**
- **Don Dennis, P.Eng.**
- **[www.fmt.ca](http://www.fmt.ca)**

# *Experience the raw, gut-wrenching drama of human conflict through **Accounting***



**Preparing to do battle**



**The thrill of victory**



**The agony of defeat**



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# **Background on the project**

# FM Division

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- **Planning and Development**
- **Operations & Maintenance**
- **Custodial**
- **Grounds**
- **Utilities**
- **Purchasing**
- **Central Stores**
- **Finance**

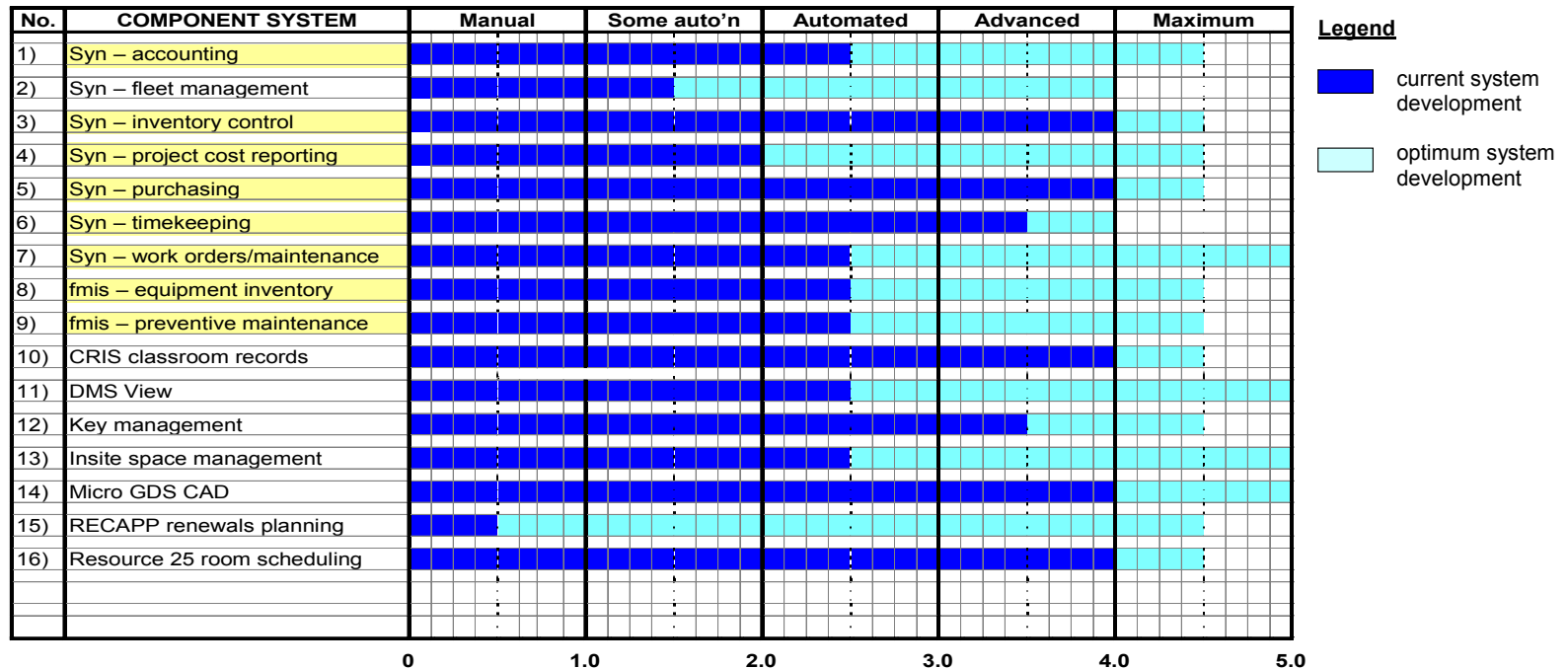
# Existing CMMS

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- **core business system for FMD**
- **customized version developed in 1991**
- **upgraded to base product in 1998**
- **Client/server application**
  - Oracle database**
  - Open VMS platform**
  - Windows NT client o/s**

# FM IS Review - summer 2001

## FMS Component System Evaluations



# FMIS Review

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## CMMS (1998 version)

- ✓ purchasing, inventory control, timekeeping
  
- X work orders, accounting, project cost reporting
  
- X 1991 version still used for asset management, preventive maintenance

# Problems with CMMS

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- **limited staff involvement in 1998 decision**
- **minimal use of WO's**
- **no account or asset hierarchies**
- **limited management reporting capabilities**
- **inadequate financial reporting**
- **varied staff commitment to system**

# Need for CMMS Project

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- **product support discontinued for the 1998 version**
- **internal staff attitudes towards the system**
- **FMD needs last assessed in 1990**
- **change in FMD leadership in 2000**
- **Effective CMMS was required to achieve FMD strategic plan**



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# **FMD View of the Project**

# Scanning Summary

- Our environment was rapidly changing
- We had not kept up
- Pressures to perform and justify existence

**BUT**

- **No tool to manage our business (even though had installed a CMMS twice)**
- **No data; no proof of stewardship or performance**
- **No cost reporting**
- **No cost benefit or life cycle costing**
- **No justification for funding requests**
- **“Real men do it in their head”**

# O&M Department Size-up

	<u>Strengths</u>	<u>Weaknesses</u>
<u>Operations process</u>	- Dedicated staff	- Huge cultural and attitudinal inertia - Poor / no use of technology - Poor productivity - Unwillingness to change
<u>Risk management issues</u>		- Insurance, safety and purchasing procedures not in place - Poor HS&E programs - Poor project management processes
<u>Use of technology</u>	- Some computerized systems - Good space mngt system	- Fear and unwillingness to adopt new methods and technologies

# Action for the CMMS Project

- **Needed a comprehensive, broad, powerful, useable facilities management tool (CMMS)**
- **Buy in was critical – this time it had to be USED**
- **Could not invest more \$ without clear benefits**
- **Time pressure to improve business**
- **Project management expertise**
- **Why failed in the past; how to succeed this time**
- **Leadership = Buy-in = Transformation**

***The technology was just the catalyst for cultural, attitudinal and organizational transformation***

# Project Buy-in Strategy

- **Credible project management**
- **Multi-faceted education and repetition**
- **Top led; bottom fed**
- **What's in it for me**
- **Fear, threat, criticism, pride**
- **Make the work easier**
- **Improve ability to serve the customer**
- **Job security**
- **Protect "their" assets – tool FOR THEM, designed BY THEM**
- **Bottom line direction that "this decision has been made now it's YOUR JOB to make it happen"**
- **Consequence of non-compliance**
- **Replacement of senior managers**
- **Teams and team leaders**

# Key Success Factors - CMMS Project

<u>Key success factors</u>	<u>Driving forces</u>
<ul style="list-style-type: none"><li>- <b>Buy in and involvement of staff</b></li><li>- <b>Embrace new technologies</b></li><li>- <b>Empowerment and inclusion</b></li><li>- Funding rewards</li><li>- Reputation enhancement</li><li>- Job satisfaction</li></ul>	<ul style="list-style-type: none"><li>- Communications and understanding</li><li>- Job security</li><li>- Funding levels</li><li>- Political interference</li><li>- Coordination and leadership</li></ul>

# Staff Responses to CMMS Project

- I won't understand how to use it
- I don't need it
- It's a waste of money
- Just give me more men
- I don't want to report how I spend my budget
- This is just a management tool
- **I'll waste time with computers and paper**
- I need to run an operation, not use a computer
- It will put work order bureaucracy in between our customers and our service providers
- We don't have time to specify a new system
- There is nothing wrong with our current systems and processes
- I've always come in under budget, why do we need a new system
- I don't need a computer to tell me which roofs are bad

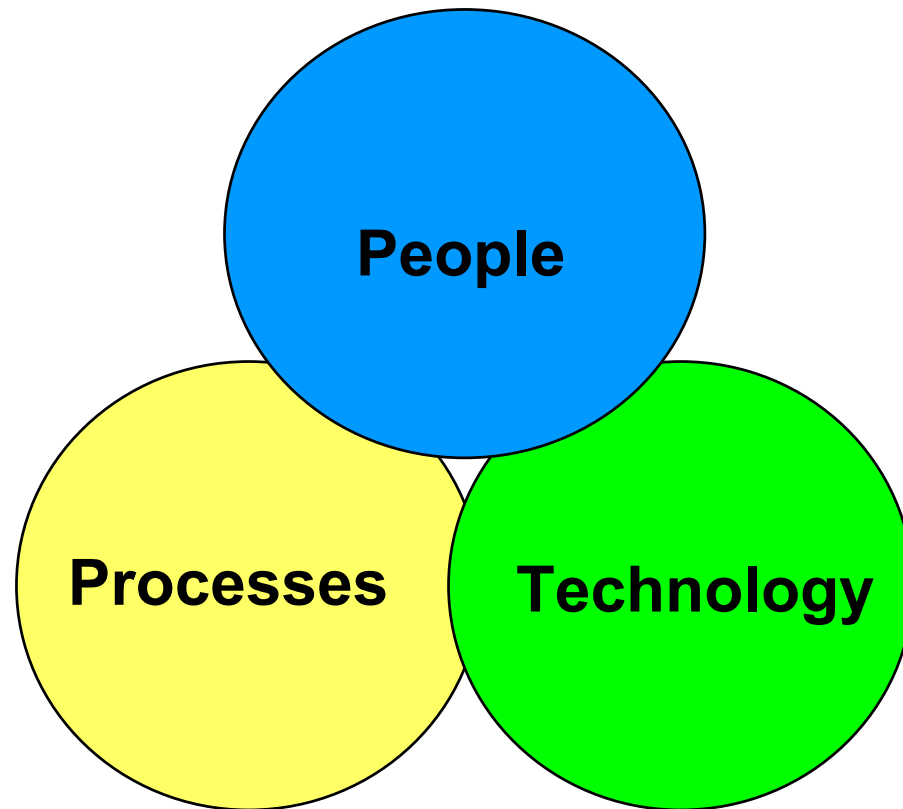


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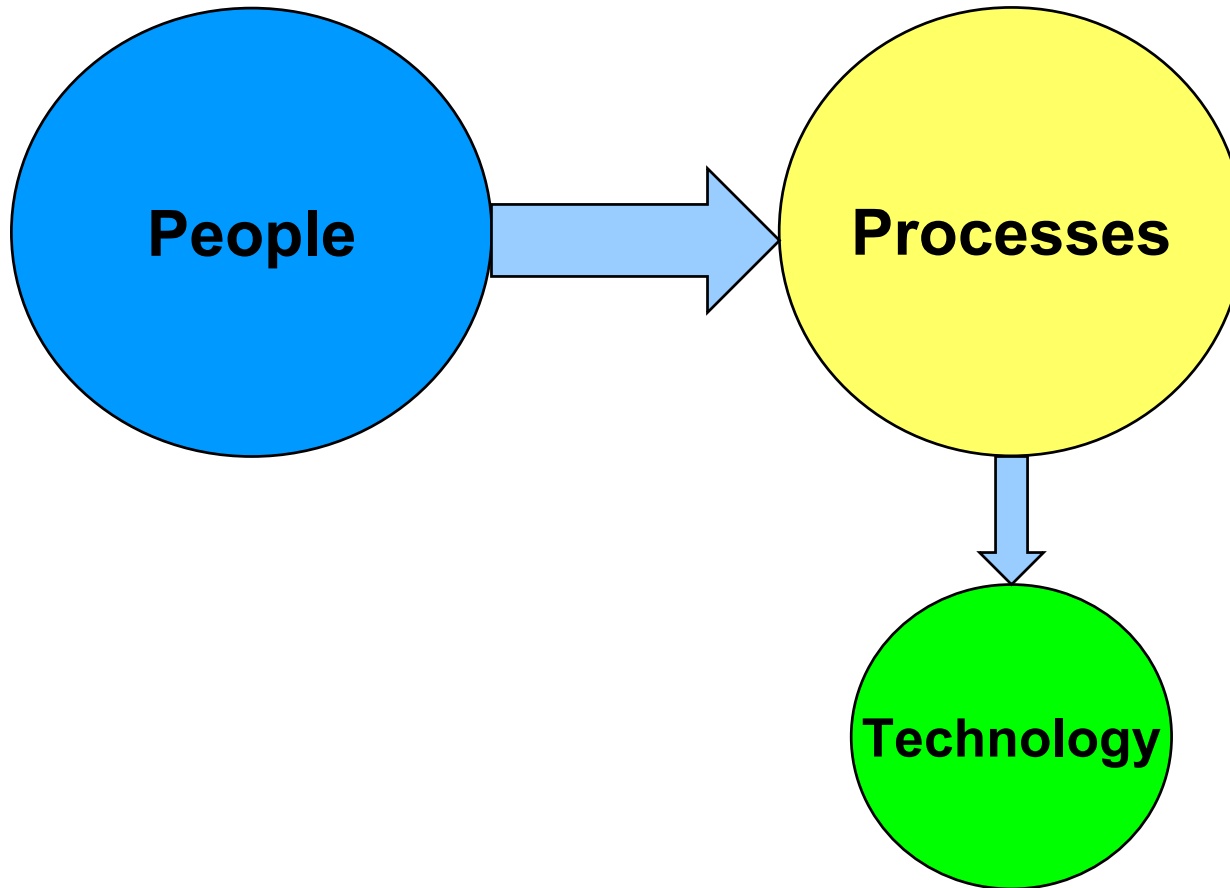
# **FmT Approach to Technology Projects**

# FM Function

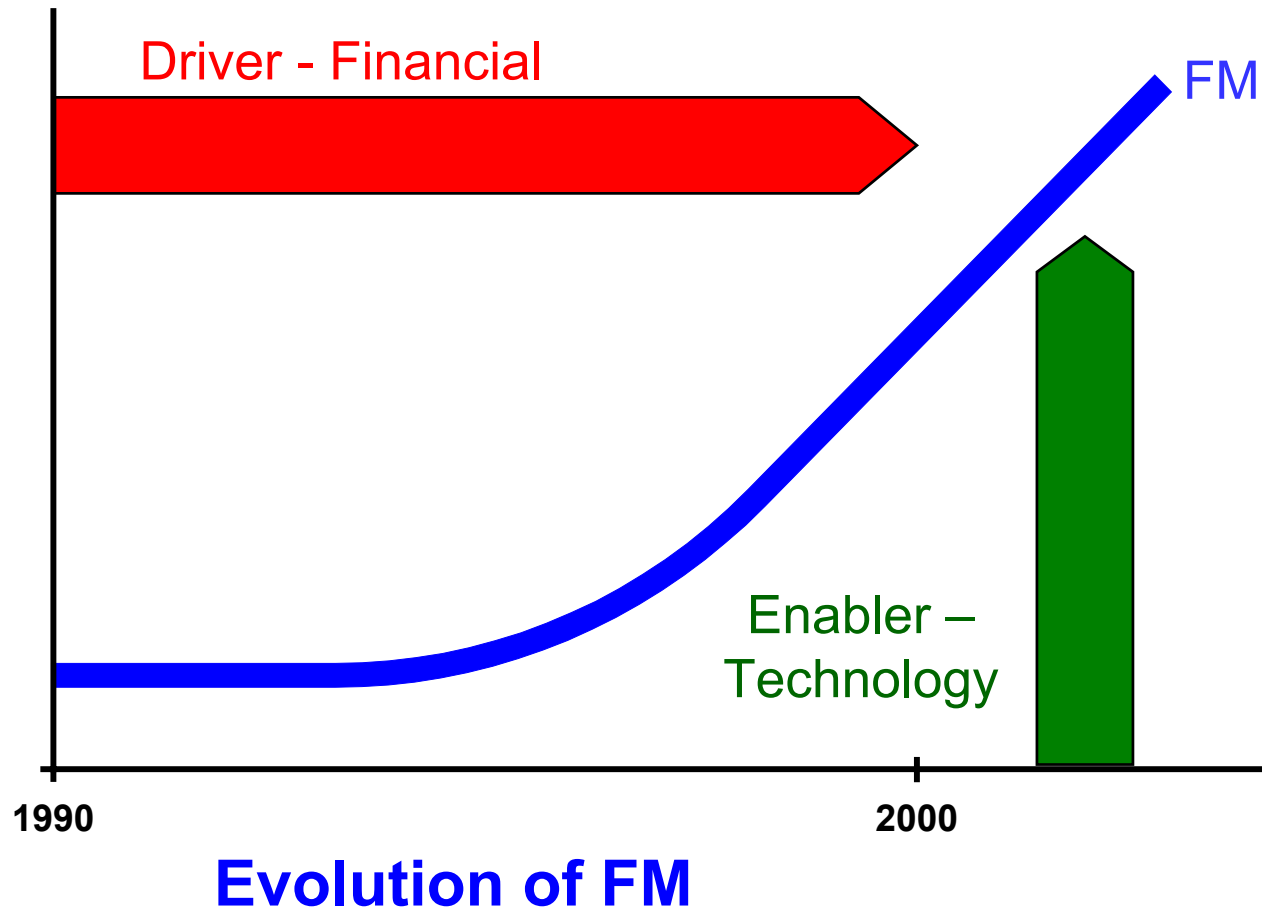
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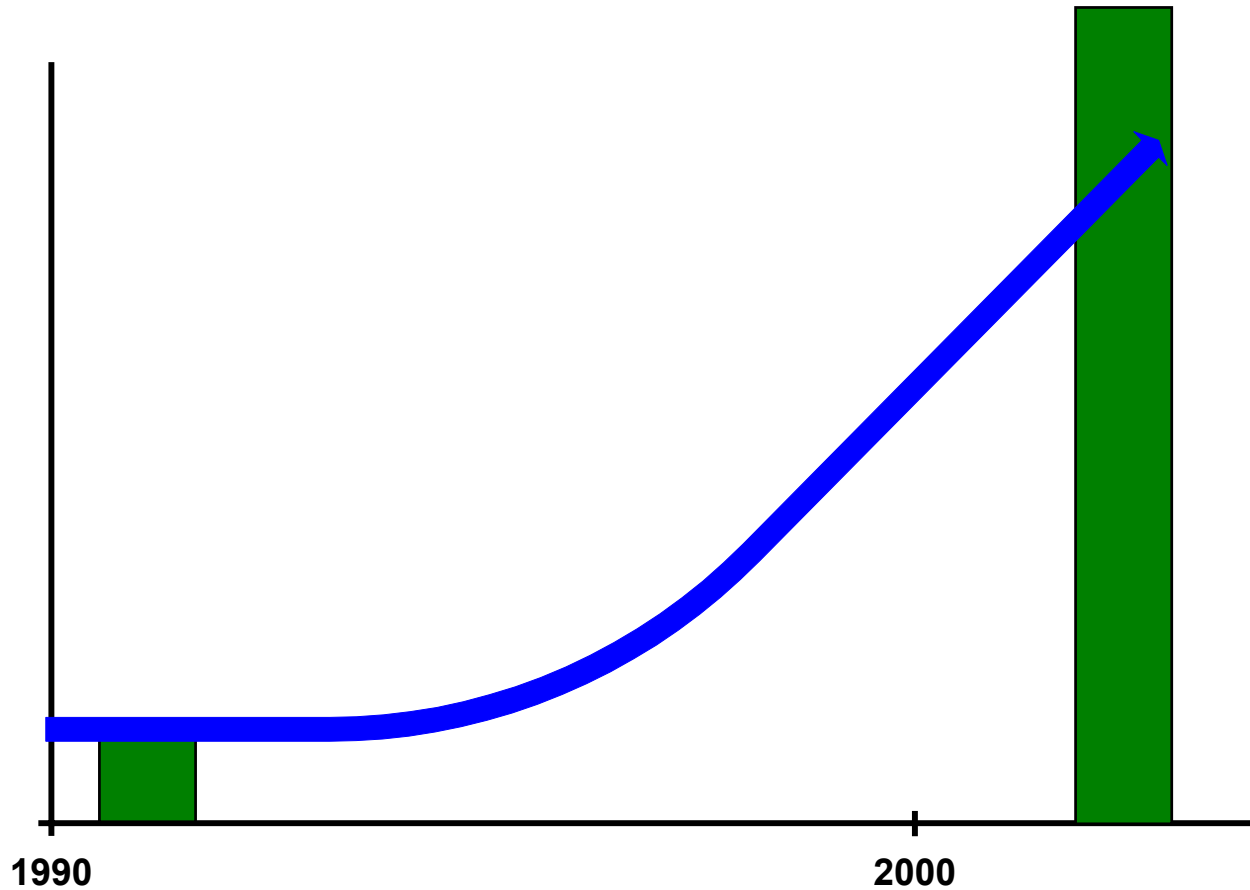
# Situation in O&M - FMD



# Role of Technology in FM

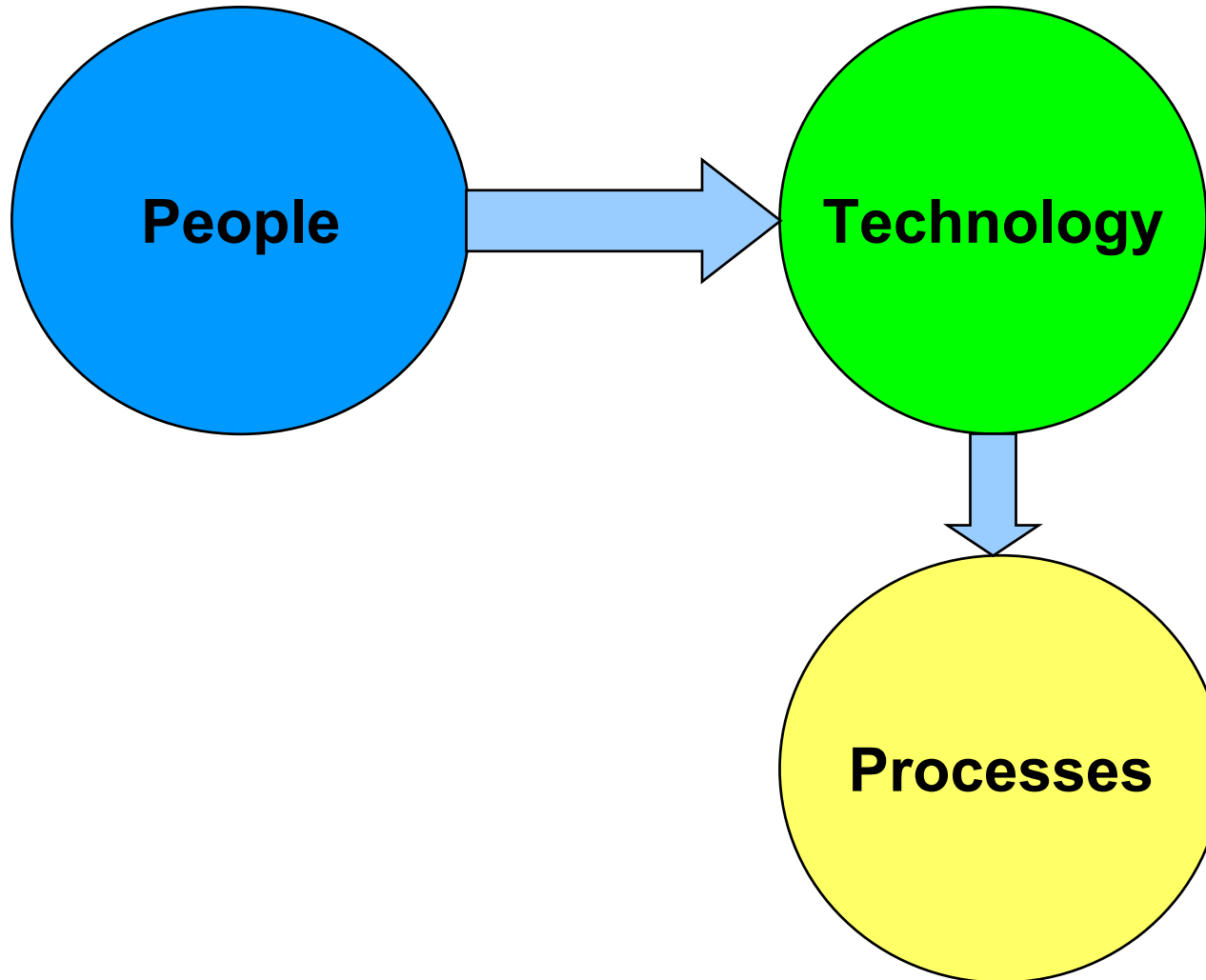


# Growth of Technology



## Evolution of FM

# Desired FM Relationship





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# **Project Management Process and Techniques**

# Parameters for the Project

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- **complete a needs assessment with maximum staff participation**
- **issue RFP to public tender**
- **invite existing CMMS vendor to bid**
- **product evaluations and selection by FMD staff**
- **FMD management retains control of the project**

# Project Management Objectives

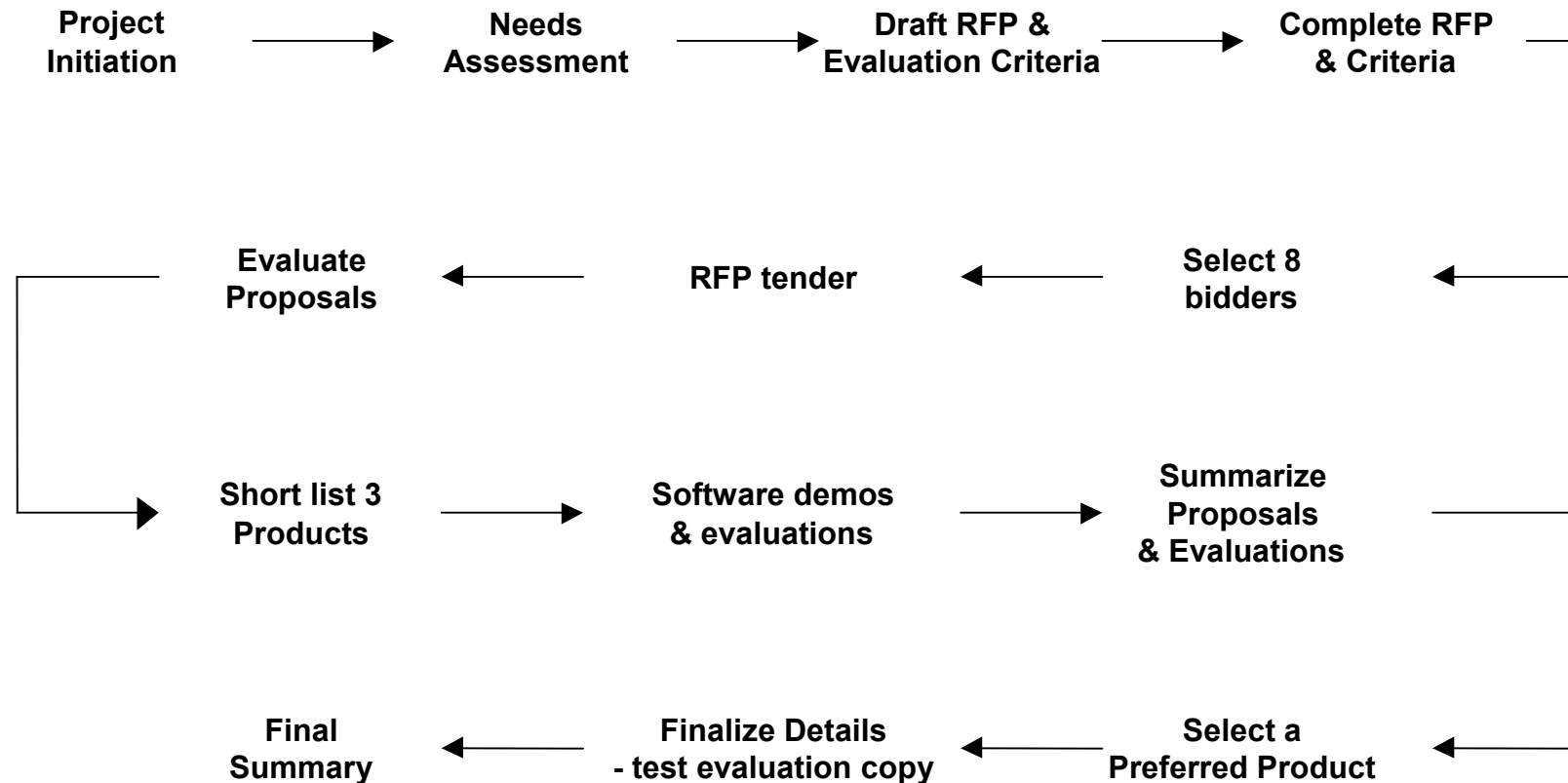
- **define a project management structure & process**
- **define & maintain the project budget**
- **clearly define user needs (to the users & bidders)**
- **prepare a detailed RFP**
- **complete an objective evaluation of proposals**
- **finalize contract and pricing details**

# Change Management Objectives

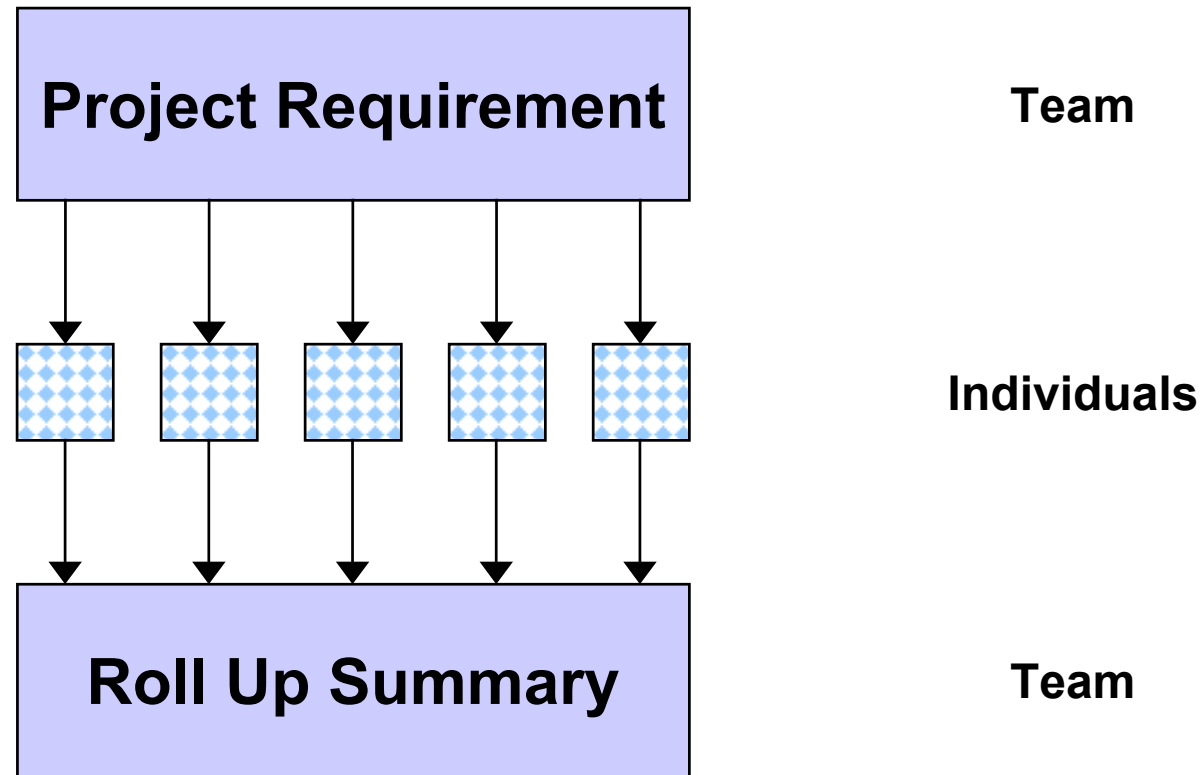
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- **define the need for change**
- **build a strong support group**
- **maximize staff involvement in decision making**
- **users define needs and priorities**
- **maximize opportunities for staff education and training**

# Project Management Process



# Project Management Concept

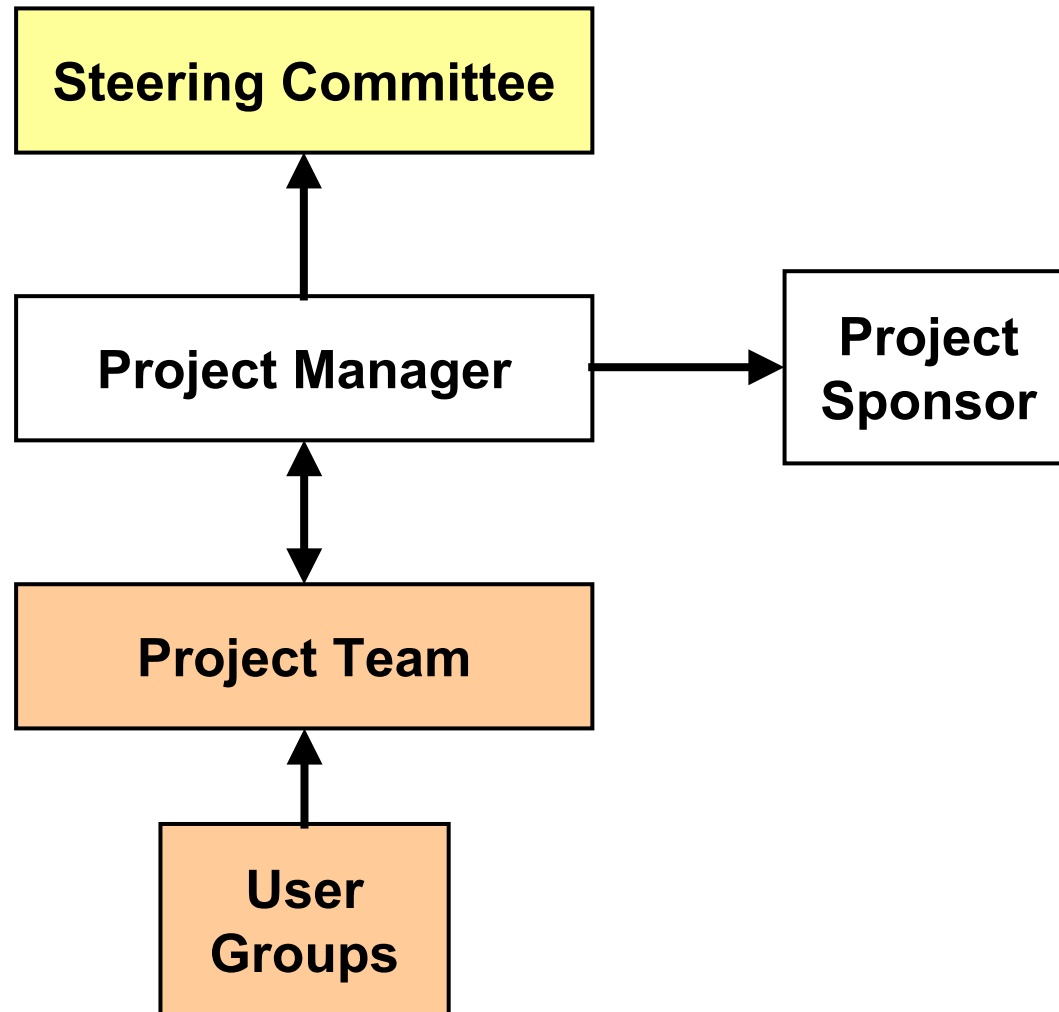


# Step 1- Project Initiation

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- **treat as a project**
- **appoint a Project Manager**
- **prepare 33 step workplan (per the FmT proposal)**
- **define objectives, deliverables and schedule**
- **map the process for the project completion**

# Project Management Structure



# Steering Committee

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- **role**
  - **provide direction to the Project Manager**
  - **make management decisions**
- **seven members**
  - **AVP, 4 Directors, 2 Managers**
- **eight - 2 hour SC meetings**

# Project Team

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- **role**
  - **represent user groups**
  - **define staff needs**
  - **make technical decisions**
  - **evaluate products**
  - **make recommendations to the SC**
  - **ensure buy-in of user groups**
- **14 members**
  - **representing each major CMMS function/module and other FMD work units**

# First SC and PT meetings

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## PPT presentation

- objectives of the project
- Roles of the SC, PT and Project Manager
- communication channels
- stakeholders
- project management process
- schedule
- detailed workplan

# Step 2 - Needs Assessment

- **Purpose - define needs, educate staff, maximize staff participation and buy-in**
- **identified 12 user groups**
- **meet with Team Leader and staff in each group**
- **prepare draft functional requirements**
- **review drafts with User Groups**
- **User Groups assign 1, 2, 3 priority**

# Needs Assessment

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- **FMD information system requirements**  
7 mandatory modules  
5 optional modules
- **total of 847 functional requirements**
- **include functional requirements in RFP**

# Excerpt from the Functional Req'ts

	<i>Functional Requirement</i>	<i>1/2/3</i>	<i>F/P/N</i>	<i>Comments</i>
<b>1.0</b>	<b>BASE – FMD SYSTEM REQUIREMENTS</b>			
<b>1.1</b>	<b>Compatibility with FMD standards</b>			
.1	3 tier client/server architecture	2		Provide description
.2	Meta data based architecture	2		
.3	Oracle Developer Tools	2		
.4	OLE compound document interface	1		
.5	Import/export data in all major file formats	1		Specify supported formats
.6	Compatibility with M/S Exchange 2000 electronic mail	1		
.7	M/S Internet Explorer v. 5.5 or higher web browser	1		
.8	M/S Office 2000 and Office XP desktop office suite	1		
.9	Provides a system administration module	1		

# Step 3 -Prepare the RFP

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- **define mandatory FMD requirements**
- **background info on FMD, the project, existing systems, needs**
- **Corporate capabilities - 20 questions**
- **Product capabilities - 83 questions**
- **Product pricing - 30 questions**
- **Define a “Year 1 software cost” for “apples to apples” price comparisons**
- **Y/P/N vendor response for compliance to each functional requirement**

# Step 4- Prepare Evaluation Criteria

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- **six major factors (in RFP) 5% to 35%**
- **59 minor evaluation factors 0.25 to 3.0%**
- **each factor linked to specific questions**
- **prepare a rating guideline for each factor**
- **criteria & guidelines approved by SC & PT**
- **Allows completion of objective evaluations**
- **Allows single source completion / Team review of the evaluations**

# Excerpt from Evaluation Rating Guideline

Description of Factor	RFP Ref.	Max Pts	Rating Guidelines
<b>CORPORATE CAPABILITIES</b>			
Corporate ability to handle this project	H.1.1 to .7	1.00	0.5 is acceptable
Stability of CMMS product	H.2.1 + .2	1.00	0.75 = 10 years
Resources to support CMMS product	H.2.3 to .5	1.00	0.5 is acceptable
CMMS product share of marketplace	H.2.6 + .7	0.50	0 for no response
Availability of CMMS user group	H.2.8 + .9	0.50	0.5 = yes; 0 = no
Suitability of local support	H.3.1 to .4	1.00	1.0 for office in Western Canada
		<b>5.00</b>	
<b>PRODUCT CAPABILITIES</b>			
Meets all mandatory requirements	I.3	2.00	- 0.50 per each deviation
Has all desired optional modules	I.4.1	1.50	- 0.25 per each no module
Has all additional optional modules	I.4.2	0.50	0.25 per module
Has other optional modules of interest	I.4.3	0.25	0.25 for 1 or more

# Step 5 - Preferred Bidders

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- **define mandatory bidder requirements**
- **reviewed 35 potential CMMS vendors**
- **recommended 9 vendors**

# Step 6 - Issue to Tender

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- **post on public website with mandatory requirements**
- **courier RFP to selected vendors**
- **3 + week tender period**
- **received six acceptable proposals**

# Step 7 - Evaluate Proposals

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- **Obtain clarifications from bidders**
- **Spreadsheets prepared by project manager**
  - **summary of all proposals**
  - **evaluation of each proposal**
  - **summary of all evaluations**
- **spreadsheet calculation of vendor response to the functional requirements**

# Excerpt from the Summary of Proposals

No.	RFP reference	A	B	C
<b>I.9</b>	<b>S/W maintenance and support agreement</b>			
1)	Agreement available	Yes	Yes	Yes
2)	Annual cost	20% of MRP (6)	17% of MRP	18% of cost
3)	Agreement commences	Upon s/w installation	upon s/w installation	on shipment
4)	Services included	Tel support & updates	Tel support	tel support & updates
5)	Services by head office	All	All	None
	Services by local office	None	None	All
6)	Max # FMD staff who can use support	No limit	3	no limit
7)	Software upgrades included	Yes	Yes	Yes
	If not, cost of next upgrade	-	-	n/a
	If not, date of next upgrade	-	-	n/a
8)	Can meet FMD telecomm service time req'ts	No (7)	No	Yes
	Normal times of telecomm operation	8 hrs x 5 days	8 to 17:00 hrs EST	8 to 20:00 hrs EST
9)	Discount for multiple years	10%	Yes	Yes
10)	Can adjust scope and cost	Yes	Yes	Yes

# Excerpt from the Summary of the Ratings

No.		RFP	Max	Vendor			
	Description of Factor	Reference	Points	A	B	C	Average
<b>1.0</b>	<b>PROPOSAL</b>						
1)	Overall quality		1.00	1.00	0.75	1.00	
2)	Adherence to guidelines for content	2.1	0.50	0.50	0.50	0.50	
3)	Responded to all requirements		1.50	1.00	0.75	1.25	
4)	Provided clear, concise responses		1.50	1.00	1.00	1.00	
5)	Completed required forms	App A to D	0.50	0.50	0.50	0.50	
			<b>5.00</b>	<b>4.00</b>	<b>3.50</b>	<b>4.25</b>	<b>3.92</b>
<b>2.0</b>	<b>CORPORATE CAPABILITIES</b>						
1)	Corporate ability to handle this project	H.1.1 to .7	1.00	0.75	1.00	1.00	
2)	Stability of CMMS product	H.2.1 + .2	1.00	1.00	1.00	0.75	
3)	Resources to support CMMS product	H.2.3 to .5	1.00	1.00	1.00	1.00	
4)	CMMS product share of marketplace	H.2.6 + .7	0.50	0.00	0.50	0.00	
5)	Availability of CMMS user group	H.2.8 + .9	0.50	0.50	0.50	0.50	
6)	Suitability of local support	H.3.1 to .4	1.00	0.00	0.50	0.00	
			<b>5.00</b>	<b>3.25</b>	<b>4.50</b>	<b>3.25</b>	<b>3.67</b>

# Evaluate Proposals

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## Benefits

- consistent evaluations
- minimize subjective evaluations
- minimize FMD staff time
- allows group participation
- FMD staff focus on comparing responses

# Step 8 - Select Short List

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- **SC ranked the vendors**
- **PT independently ranked the vendors**
- **PT recommended 3 shortlist vendors**
- **SC approved the 3 selected vendors**

# Step 9 - Software Demos

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- detailed instructions to vendors
- same format and venue for each demo
- SC and PT approved evaluation factors and weightings
- product evaluations completed by 11 user groups and 1 “at-large” group
- demos attended by 35 to 45 FMD staff

# Software Demos

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- **the Team Leader for each user group must attend all 3 sessions**
- **evaluations were completed at the end of each day**
- **Team Leaders provided ratings after consultation with his/her user group**

# Software Demos

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## Benefits

- equal opportunity for each vendor
- fully transparent process
- maximized staff participation
- staff education on CMMS use
- staff exposure to the latest technology

# Step 10 - Summarize Evaluations

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- **prepare a total rating of the proposals and demos for each vendor**
- **SC rated the vendors**
- **PT independently rated the vendors**
- **PT recommended**
  - **one vendor eliminated**
  - **further analysis of final 2 vendors**
- **SC concurred**

# Step 11 - Further Evaluations

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- **obtained clarifications from vendors on additional details**
- **User groups prepared lists of additional questions for each vendor**
- **3 hour Web-X demo by each vendor**
- **telephone 3 references for each vendor; circulate minutes to SC and PT members**

# Step 12 - Select the Product

- **3 hour meeting of all SC and PT members**
- **project cost estimates not provided**
- **selection based on performance and technical capabilities**
- **Team Leaders voted for his/her user groups**
- **preferred product selected**
- **SC approved the selection and budget**

# Step 13 - Purchase the Product

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- **final pricing negotiations with the preferred vendor**
- **completed a final project cost estimate**
- **negotiate the contract with the preferred vendor**
- **prepare an implementation schedule**

# Were the objectives achieved?

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## Project Management

- ✓ define a project management structure & process
- ✓ define & maintain the project budget
- ✓ clearly define user needs (to the users & bidders)
- ✓ prepare a detailed RFP
- ✓ complete an objective evaluation of proposals
- ✓ finalize contract and pricing details

# Were the objectives achieved?

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## Change Management

- ✓ define the need for change
- ✓ build a strong support group
- ✓ **maximize staff involvement in decision making**
- ✓ users define needs and priorities
- ✓ maximize opportunities for staff education and training



***Thanks for your  
Attendance!***

**Questions?**

**For more information**

**dldennis@fmt.ca**