METHODOLOGY APPLICATION

APPLICATION NO: VM005

APPLICATION TITLE: Commercial Building: Sorting Facility

INDUSTRY: Construction

VALUE METHODOLOGY APPLIED: Value Management

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INTRODUCTION

A project team, incorporating the client and professionals was to design and construct a new green fields sorting facility for the XYZ Company.

The facility needed to be capable of sorting products within the required specifications and volumes. The project will have to be completed the final design by the end of April 200X, tender process and award by the end of May 200X and award site establish by the end of June 200X. Construction complete by end 200X and client fit out by mid 200X.

To ensure that the final design will be approved by the Project Office by the 09th May 200X a Value Management Study was initiated by the Project Team.
A VM Consultant / Facilitator was commissioned by the client to conduct the Value Management (VM) Study, with participation of selected stakeholders, to ensure functional conformity in order to achieve the objective. A Certified Value Specialist (CVS) was selected to lead the Value Engineering Workshop Activities, thus ensuring VM Process conformity.

VALUE METHODOLOGIES APPLIED

Value Management

PRE-VALUE MANAGEMENT WORKSHOP ACTIVITIES

Three (3) days external preparation and five (5) days at the Engineering Contractor / Architect Offices
Analysis of Data related to the Project

VALUE MANAGEMENT APPLICATION TOOLS

- Listing of Issues and Concerns
- Objective Matrix - Clearly stating the Goal and related environmental influences
- Results to Achieve / Functional Requirements (Verb / Noun Definitions) translated into established Priority and Level of Importance
- Recommendations
- Allocation of Responsibilities and Time Frame for Implementation
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VM WORKSHOP REPORTING

- Preparation and Issue of VM Workshop Report

VM PARTICIPANTS:

Client:

- Technical Services Manager
- Audit
- Material Handling
- Project Manager
- Project Planner
- Project Manager
- Chief Environmental Officer
- Technical Specialist
- Chief Environmental Officer

Consultants:

- Quantity Surveyor
- Civil Engineer
- Structural Engineer
- Electrical Engineer
- Mechanical Engineer
- Architect
- Technical Specialist
- Architectural Assistant
- Project Manager
- Civil Engineer
- System Engineer
- VM Facilitator

VM WORKSHOP AGENDA:

Day 1

01.)	Introduction & Project Briefing	Project Manager
02.)	VE Process Overview & Workshop Guidelines	Facilitator
03.)	Confirmation of Purpose Statement	Team & Facilitator
04.)	Issues / Concerns / Opportunities	
06.)	Objective Matrix	
07.)	Establish Functional Requirements	
08.)	Evaluate Functional Priorities	

Day 2

09.)	List recommendations	Team & Facilitator
10.)	Evaluate and prioritise recommendations	
11.)	Allocate responsibilities and time frame	
12.)	Where to from here?	Facilitator
13.)	Closure	Project Manager

ISSUES & CONCERNS

01.) Glass walls (internal partitions)
02.) Late design changes
03.) Late process changes (in-decision)
04.) Site services (timing)
05.) Rain water harvesting
06.) Renewable energy
07.) Environmental management plan
08.) Acid cleaning plant (location)
09.) Flatness of site (topography)
10.) Storage logistics
11.) Archive storage
12.) Colour sorting lighting
13.) Facilities management
14.) Interface
15.) Acid cleaning functionality
16.) Company strategy implication
17.) Operational readiness
18.) Stakeholder input on design affecting design process
19.) Means of escape
20.) Legacy
21.) Co-ordination of project team
22.) Quality management (operational / construction)
23.) Safety / security risk
24.) Orange furniture
25.) Local availability of resources (water, materials, labour etc.)
26.) Vibration analysis on long span
27.) Helipad
28.) Systems integration
29.) Lack of flexibility on new ideas (Resistance to change)
30.) Design of the sorting benches (ergonomics)
31.) Confinement
32.) Gray water
33.) Natural lighting, 3rd floor level
34.) Feed back
35.) End of day reconciliation
36.) Insurers
37.) Maintainability of new equipment
38.) Transport security
39.) Internal transportation
40.) Production planning
41.) Time scale of the projects
42.) Machine delivery

OBJECTIVE MATRIX

Objective:

Establish an action plan to ensure alignment of the Building Design to the XYZ System and obtain approval from Project Office by the 09th May 200X

RESULTS TO ACHIEVE	**RESULTS TO PREVENT**
01.) Address Glass Partitioning Concerns 02.) Limit Design Changes 03.) Optimal Alignment of Environmental Issues 04.) Confirm Archive Capacity 05.) Alignment of Artificial Colour Light 06.) Sizing of Facility 07.) Appoint Operational Readiness Manager 08.) Address Fire Escape Procedure 09.) Assess Safety Risk 10.) Have a Quality Plan in Place 11.) Full Risk Assessment (Programme and Technical)	▪ Jeopardise Business Partners relationship ▪ Un-balanced view on the issues ▪ Preference engineering ▪ Driving on cost only ▪ Un-planned cost over-runs ▪ Revise URV
AVAILABLE RESOURCES	**CONSTRAINTS**
▪ Project Team ▪ Group expertise ▪ External specialists ▪ Other stakeholders	▪ RC Factor (Resistance to Change) ▪ Time ▪ Money ▪ Undefined Company Strategies ▪ Business Processes

FUNCTIONAL ANALYSYS

Objective:

Establish an action plan to ensure alignment of the Building Design to the XYZ System and obtain approval from Project Office by the 09th May 200X

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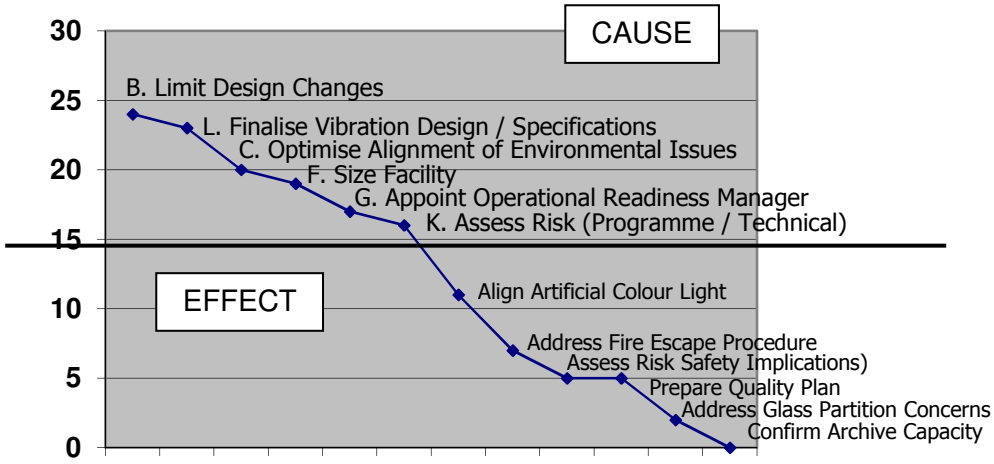
												Functions	Scr	Rnk
A	B3	C3	A1	E3	F3	G2	H1	A1	J2	K2	L3	Address Glass Partition Concerns	2	
	B	B3	B3	B2	B3	B1	B2	B3	B3	B1	L1	Limit Design Changes	24	
		C	C3	C2	C1	C2	C3	C3	C3	K1	L1	Optimise Alignment of Environmental Issues	20	
			D	E3	F3	G3	H3	I3	J3	K3	L3	Confirm Archive Capacity	0	
				E	F3	G3	E2	E2	E1	K2	L3	Align Artificial Colour Light	11	
					F	F1	F3	F3	F3	K1	L2	Size Facilities	19	
						G	G3	G3	G3	K1	L1	Appoint Operational Readiness Manager	17	
							H	H1	H2	K2	L2	Address Fire Escape Procedure	7	
								I	I2	K2	L3	Assess Safety Implications	5	
									J	K2	L3	Prepare Quality Plan	5	
										K	L1	Assess Risk (Programme / Technical)	16	
											L	Finalise Vibration Design / Specifications	23	

Basic Function (s): Limit Design Changes

Secondary Functions: Finalise Vibration Design / Specifications
Optimise Alignment of Environmental Issues
Size Facilities
Appoint Operational Readiness Manager
Assess Risk (Programme / Technical)



RECOMMENDATIONS

Example

Functional Requirement	Issues & Concerns	Recommendation	Rating	Responsibility	Time-Frame
B.) Limit Design Changes	▪ Late design changes ▪ Late process changes (in-decision) ▪ Storage logistics ▪ Company strategy implication ▪ Stakeholder input on design affecting design process ▪ Legacy & GDS ▪ System integration ▪ End of day reconciliation	01.) Finalise Business Process (within the Building) and have it signed off. 02.) Expedite HYT project and OPR 03.) Finalise Vibration Report 04.) URV to be signed off (amended) 05.) Finalise & sign off logistics exercise 06.) Finalise JTR requirements 07.) Finalise decision on Helipad requirements (signed off)			

CONCLUSION

For this application we utilised the Value Management Process to optimise the design of a large commercial building allowing us to understand the actual requirements of the specified facilities and align the best cost effective option with the specification of what is actually required.

An additional benefit was the alignment between the various stakeholders across the Project on what is needed to ensure integrity of the design and how to ensure the implementation of the recommendation.