University of Central Florida

CECS Inventory Asset Management

ANALYZE PHASE

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Felix

Agenda

- Data Collected

- System-wide Analysis

- Problem-specific Analysis

- Summary of Problems

- Transition into the Improvement Phase

Data Collected

Interviews

- Project Contact
- Tereasa Clarkson

Surveys

- Faculty in CECS

Inventory Lists

- 2004 FY Inventory
- 2005 FY Inventory
- Missing/Lost Items report

Benchmarking

- Comparison between UF & FAU

Miguel

Benchmarking

	UCF	UF	FAU
Scan Process	Scan twice in the first six months. Final scan after 5 day letter	Scan once, send letter	Same as UCF
Tagging of items	Paper UPC Tag	Paper UPC Tag. Optional tag on	Paper UPC Tag. Optional tag on
Disposition of old items	No record of what happens, except for missing report	Claims good recovery rate, so that items can be recycled into other programs	Estimate that 50% of obsolete or old items are thrown away without reporting
Availability of forms	Part of a larger financial website. PC has exposure at university wide level	Extensive website with trasnfer, off site transport permission forms,	Basic information wbesite and forms available online

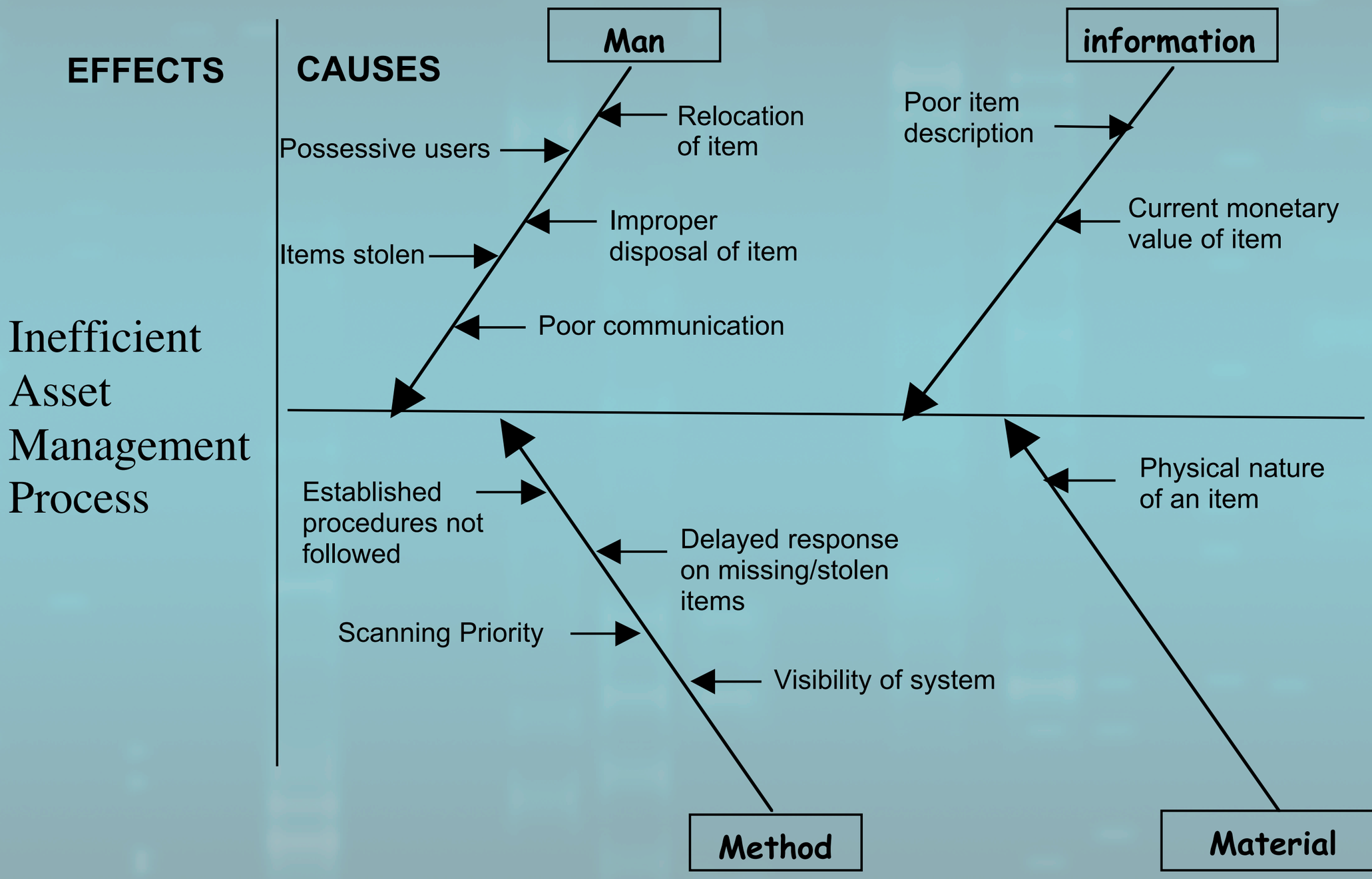
Miguel

System-wide Analysis

- Cause-and-Effect
- Why-Why Analysis
- Process Issues Development
- Affinity Diagram
- Cost of Quality

Amol

Cause & Effect Diagram



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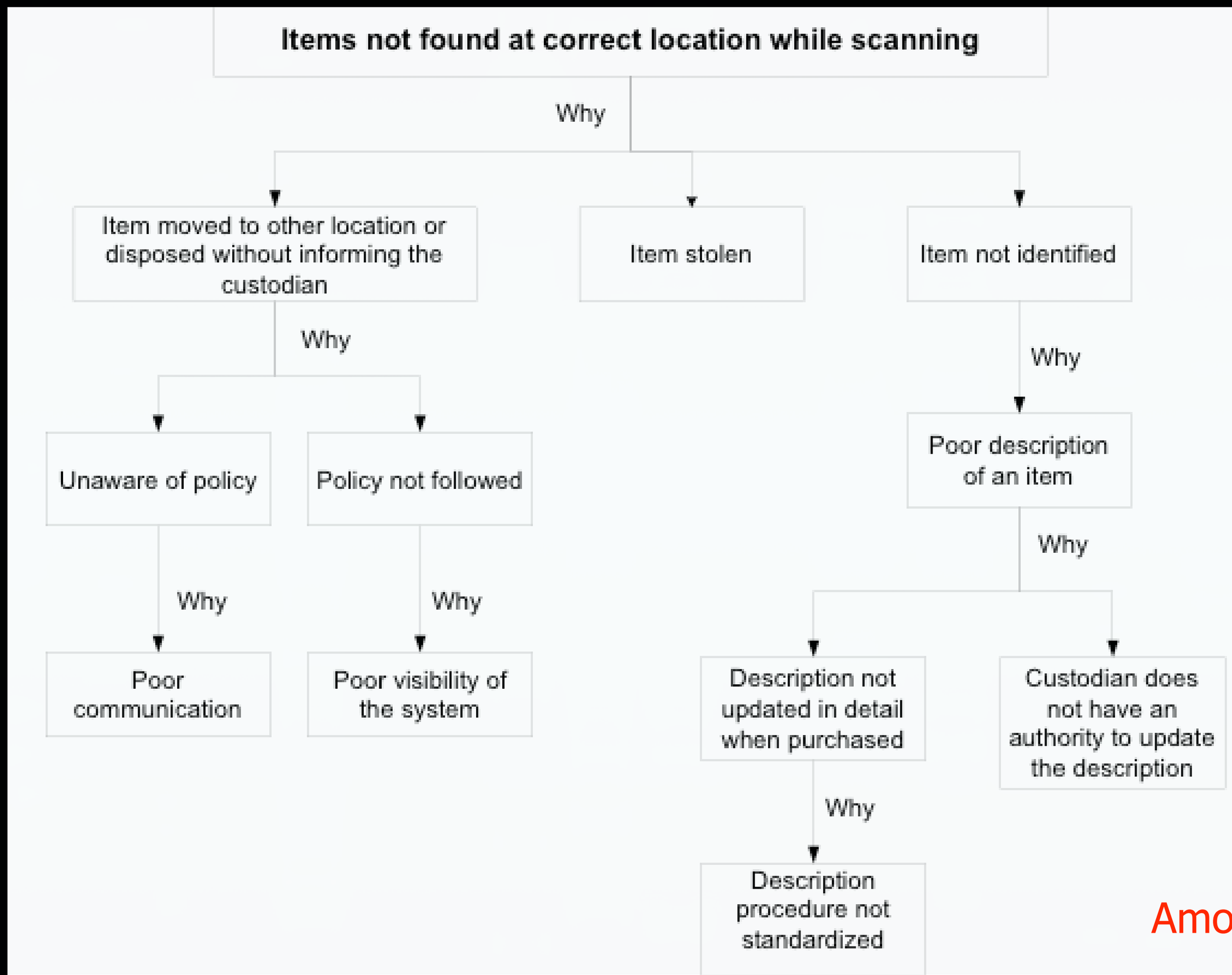

Items not found at correct location while scanning
Why
Item moved to other location or disposed without informing the custodian
Item stolen
Item not identified
Why
Unaware of policy
Policy not followed
Why
Poor description of an item
Why
Why
Poor communication
Poor visibility of the system
Why
Description not updated in detail when purchased
Custodian does not have an authority to update the description
Why
Description procedure not standardized
Amol

Process Issue Development

Activity in the value stream	Task Involved	Issues/Potential Defect Producer
Obtain asset	- Purchase through project - Obtain through grant - Obtain by Yearly capital	P.O. not visible to Property Manager
Assign Location	- Pick up from receiving and tag/take it to room - Direct delivery to room	No clear decision maker for where item goes
Use of item	-Items transported -Taken off-campus or remote location	Item location may change How much mobility is required?
Damage/Obsolescence	- Must be checkeed for wear - Examine for repair or recovery	Who checks and calls for repairs? If disposed, is Property Control called?
Inventory	- Find item - Scan items	Is it in the room? What if it's in wrong room? Is it identifiable (in the open)"

Bob

Affinity Diagram

Process Diagram	Deployment Matrix	Interviews	Questionnaires	Benchmarking	#
No visibility of purchase order to Propery Manager	No involvement by P.M. to review description of item	Never sees purchase order, requires financial clearance	_____	At one school, Controller contacts property manager if detected. P-cards used for capital purchases, which is against policy	1
Improve identification of an item	Identification of asset to enable scanning by property control	Can't discern what some items are. Scanners are student with little training	81% of faculty has no problem most of the time	Consistency in item description to enable identification by scanners,	2
Who is decision maker for location of item? Is it important?	Department may be purchaser or department, no involvement from PM	No involvement in where items are but they are sccnned where found	81% know where items are or can find items most of the time, but 57% of them are affected at some time by missing items	Not identifies as issue	3

Bob

Cost of "Poor" Quality

- Prevention = $0 (no measures)
- Appraisal = $2761 (1st Pass)
- Failures
  - Internal Failure Costs =$2761 (2nd Pass)
  - External Failure Costs = $66,000 /yr

Cost of Poor Quality = $68,761

Bob

Process-specific Analysis

- Hypothesis Testing
- Study of Items Moved
- ABC Inventory Analysis

Varshini

ABC Inventory Analysis

Classification	Value range of items	Number of items	% of number of items	Cum.% of number of items	Value of items	% of total value of items	Cum.% of value of items
A	$3000 and above	1,191	27.14%	27.14%	$11,853,570.43	68.22%	68.22%
B	$1000 - $2000	2,227	50.66%	77.66%	$3,193,012.13	18.38%	86.60%
C	$2000 - $3000	970	22.10%	100.00%	$2,328,056.12	13.40%	100.00%
	Total	3,197			$17,374,638.68		

Varshini

Summary of Problems

- Lack of Proper Item Description
- Moving items between rooms without prior approval
- Cannibalization and surplus
- Difficulty accessing items when scanning
- Items missed during scanning

Felix

Transition to Improve Phase

- 5S
- House of Quality
- Deployment Matrix
- Failure Modes and Effects Analysis

Russ

5S

	Issues	Recommendation
SORT	High-value items are being lost, incurring a considerable cost to the University	Establish an ABC inventory method. Place emphasis on items worth a substantial amount.
SYSTEMATIZE	In the process of scanning, items may be unavailable because they are in a locked cabinet or off-campus (faculty may have taken it home, etc.)	Establish a system in which faculty is warned beforehand on the scanning visit. Order faculty to bring all items and unlock all cabinets on that day.
SWEEP N' CLEAN	Information regarding property office and all necessary forms are dispersed across different websites	Create a centralized center of information for all faculty/staff.
STANDARDIZE	Information provided on the description section for each item can vary drastically from one item to another, even when they are actually very similar. Items with poor descriptions are difficult to find.	Set a standard for the information provided in the description. Brand name, color, use, and size are very helpful characteristics when searching for a difficult item.
SELF-DISCIPLINE	Professors are not following the procedures set forth by the property office and the state.	Re-educate the professors, discuss the issues and create a culture of concern towards state property.

Russ

INTERACTIONS

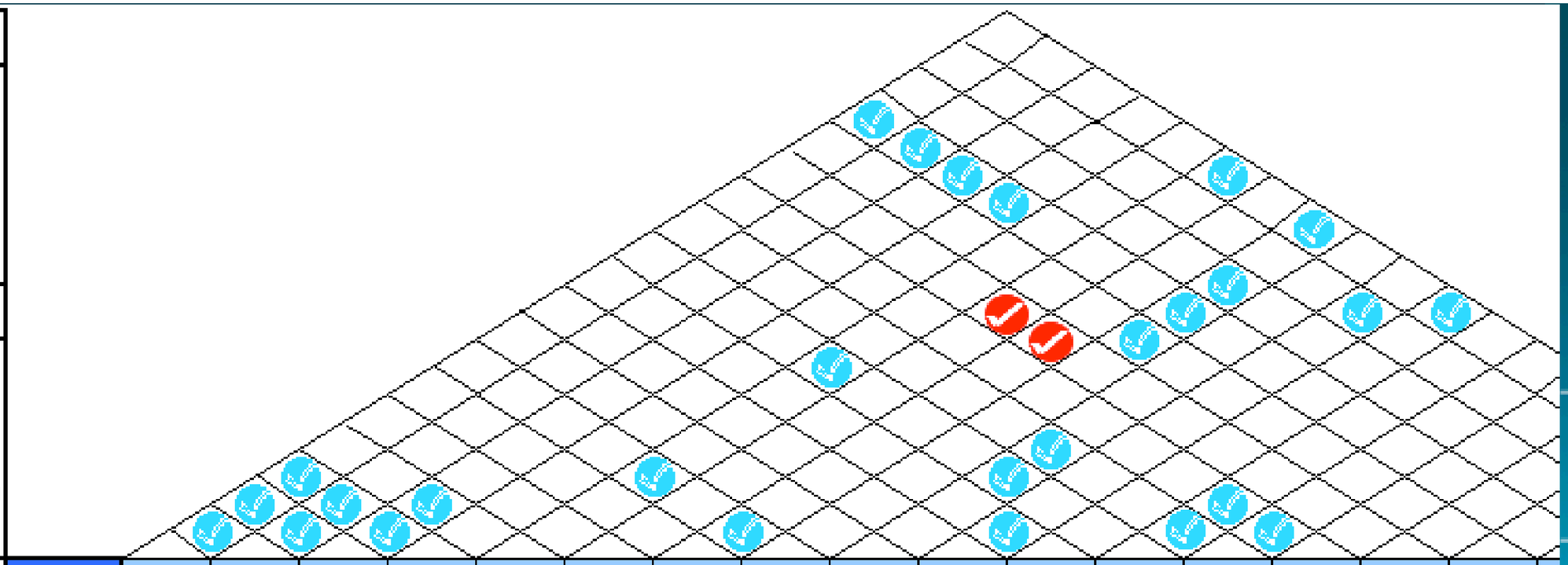
POSITIVE INTERACTION

NEGATIVE INTERACTION

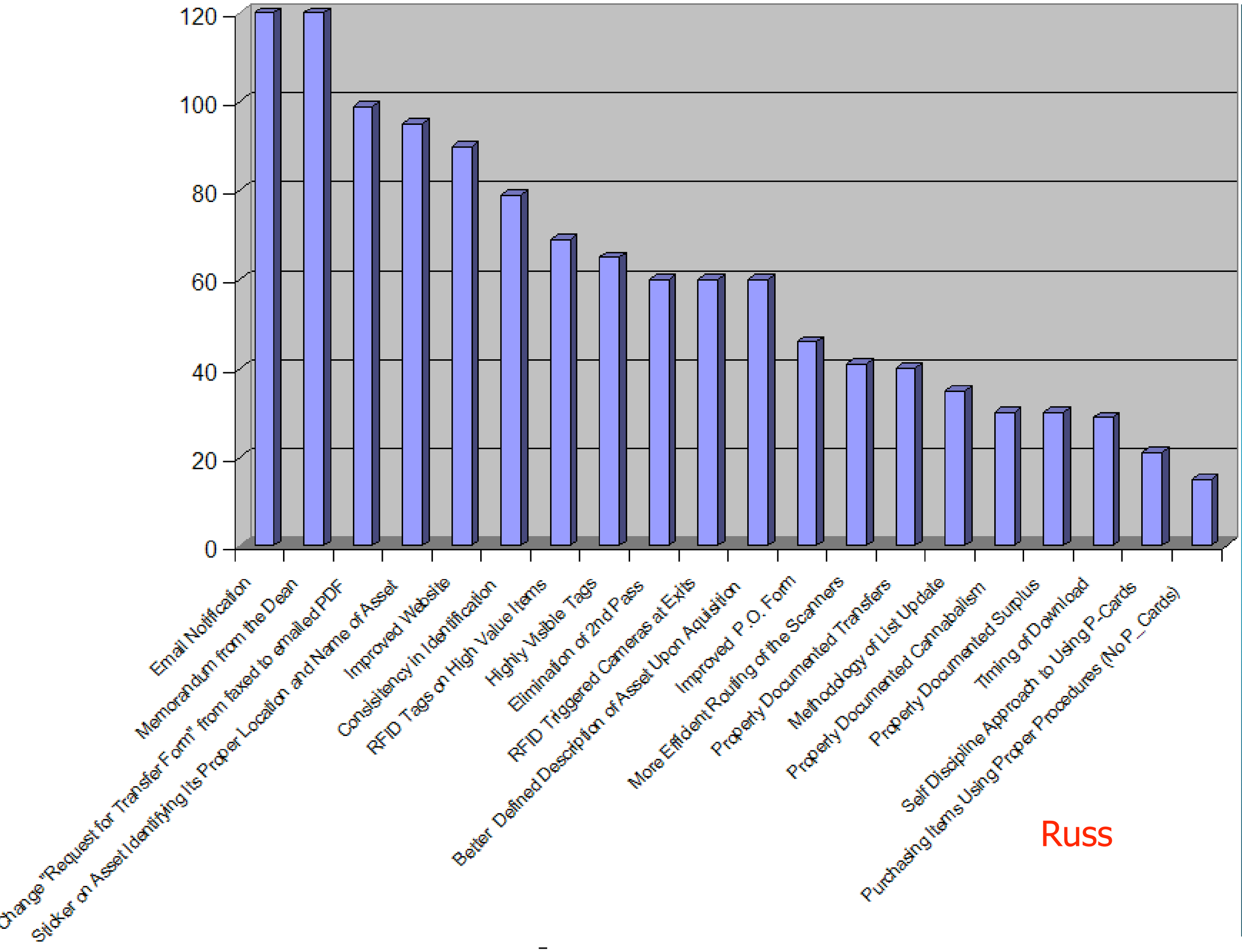
RELATIONS

WEAK RELATIONSHIP (x3)

STRONG RELATIONSHIP (x5)



	Importance Rating	Email Notification	Improved Website	Change "Request for Transfer Form" from faxed to emailed PDF	Memorandum from the Dean	Sticker on Asset Identifying Its Proper Location and Name of Asset	Improved P.O. Form	Self Discipline Approach to Using P-Cards	Consistency in Identification	More Efficient Routing of the Scanners	RFID Tags on High Value Items	Highly Visible Tags	Elimination of 2nd Pass	Methodology of List Update	Timing of Download	Purchasing Items Using Proper Procedures (No P_Cards)	Properly Documented Surplus	Properly Documented
Faculty Awareness of Policy Procedures	5	X	X	X	X	X												
Faculty's Ease of Notification of Relocation	5		X	X														
Documented Location of Assets	5	X	X	X	X	X	X		X									
Identification of Assets	4								X				X					
Efficiency in Yearly Scanning	4	X				X				X			X					
Safeguarding of Valuable Assets	5	X	X	X	X	X					X	X						
Number of Items Lost	2	X	X	X	X	X	X	X	X	X	X	X				X		
Efficiency of List Updates	4								X				X	X	X	Russ		
Undocumented Asset Avoidance	3			X		X	X	X			X	X		X	X	X	X	
Loss of Asset Avoidance	5	X			X				X	X	X	X					X	
TOTAL		120	90	99	120	95	46	21	79	41	69	65	60	35	29	15	30	


120
100
80
60
40
20
0
Email Notification
Memorandum from the Dean
"Request for Transfer Form" from faxed to emailed PDF
Sticker on Asset Identifying Its Proper Location and Name of Asset
Improved Website
Consistency in Identification
RFID Tags on High Value Items
Highly Visible Tags
Elimination of 2nd Pass
RFID Triggered Cameras at Exits
Better Defined Description of Asset Upon Aquisition
Improved P.O. Form
More Efficient Routing of the Scanners
Properly Documented Transfers
Methodology of List Update
Properly Documented Cannabalism
Properly Documented Surplus
Timing of Download
Self Discipline Approach to Using P-Cards
Purchasing Items Using Proper Procedures (No P_Cards)
Change "Request for Transfer Form" from faxed to emailed PDF
Sticker on Asset Identifying Its Proper Location and Name of Asset
Russ

FMEA

Process Step	Potential Failure Mode	Potential Effect(s) of Failure	Sev	Potential Cause(s) of Failure	Occ	Det	RPN
Place Asset into Use	Item could be placed in wrong location	Inventory match up difficult	4	Improper communication	5	4	80
	Item stolen	Item will not be found leading to detailed investigation	10	Not good security for rooms with items	5	9	450
	Item damaged	Cannot be put into use	6	Careless handling by users	3	2	36
	Item not put into use	Item not available for use	4	Item misplaced or custodian did not know where to place it	2	1	8
				Item was ordered because it was thought to have been lost			
	Item returned to vendor	Loss of inventory	3	Item arrived damaged or wrong item arrived	2	1	6
				Did not order this item			
	Poor description of items	Time spent by scanners in looking for items they are not sure of	10	Lack of standardized procedures when providing decription of an item	10	9	900

Varshini

FMEA

Process Step	Potential Failure Mode	Potential Effect(s) of Failure	Sev	Potential Cause(s) of Failure	Occ	Det	RPN
Scan Items	Scanner not working properly	Inventory delay and no data captured	4	Malfunctioning equipment	2	1	8
	Tags not readable by scanner	List will not get updated	2	Illegible tag or damaged tag	2	1	4
	Scanned wrong barcodes	Item will not show in list and will be noted as lost	2	Many similar looking tags on part, operator not aware of serial number tag or format	1	6	12
	Missed items from scanning	Time spent in second and third passes scanning them	9	Operator not systematic and careful, no sequence followed	8	10	720
	Inability to scan items either because they are locked away or inaccessible	Delays in scanning those items	10	Faculty members keep items locked away in cabinets or take it home	10	9	900
	Items moved between departments or locations without approval	Time and effort wasted in looking for those items	9	Faculty members not aware of process and procedure that needs to be followed	9	10	810
	Items surplused or cannibalized without informing	Time spent in looking for such items	9	Lack of awareness among faculty members of the process	9	10	810

Varshini

Questions ?

Felix