Creating Value: An Alternate View of Meaning and Worth

Bill Kline Engineering Management Rose-Hulman Institute of Technology kline@rose-hulman.edu 812-877-8136 Ella Ingram Biology & Biomedical Engineering Rose-Hulman Institute of Technology ingram@rose-hulman.edu 812-877-8507

Session Objectives

As a result of participating in this workshop, instructors will be able to... Describe a revenue-neutral conception of value.

Demonstrate the two-matrix model of evaluating value for their students. Defend their unique value to the institution.

What is value?		 	
Value aspects include			
•	•		
•	•		
•	•		
•	•		
Our definition of value		 	

A two-step model for assessing value

Step 1: Stakeholder/Feature View

Independent of product identity or configuration
Captures stakeholders of interest
Determines relevant evaluation metrics
Quick and dirty review of value assessment
Infinitely scalable (as needed)

Step 2: Features/Design View

Comparative across models Incorporates product or version configuration (term of art: "instantiations") Captures relative value Infinitely scalable (as needed)

Example Step 1: Shopping Cart (A System)

- 1. Identify stakeholders and their priority
- 2. Identify relevant features and the attributes of interest
- 3. Assign assessment to stakeholder/feature pairs

Stakeholders from User to Provider (Stakeholder Priority)

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		Customer (Shopper)	Manufacturer				
		High	High	Medium			
Feature Name	Feature Attribute	Feature Priority	Feature Priority	Feature Priority			
Transport Groceries	Volume of items	E	E	0			
Maneuverable	Turning distance	D	E	0			
Transport Child	Size of passenger	Е	E	0			
Long Life	MTBF	0	E	1			
Affordable	Purchase price	0	Е	1			
Profitable	ROI	0	D	E			
Attractive	Survey results	E	Е	D			

E = expected; D = delighters; 0 = no interest; 1 = value scales with attribute; ψ = detractor

Scale to include other stakeholders: store employees, property owner, accompanying minors Scale to include other features and attributes: shopper privacy, location assistance, checkout on the go, theft deterrence, safety child seat, weather resistance, nestability

Example Step 1: Roosters (Also A System)

- 1. Identify stakeholders and their priority
- 2. Identify relevant features and the attributes of interest
- 3. Assign assessment to stakeholder/feature pairs

		Jim	Ella	Hens	UPS/USPS
		HIGH	HIGH	HIGH	LOW
Feature Name	Feature Attribute	Feature Priority	Feature Priority	Feature Priority	Feature Priority
Fiestiness	Human attack rate	1	V	0	V
Loveliness	Length of tail feathers	D	D	E	0
Randiness	Mounting rate	1	↓	1	0
Consumption	Feed consumed	E	Е	0	0
Protection	Crows per hour	1	↓	1	0
Durability	Whacks withstood	D	1	0	1
Entertainment	Laughs by observer	1	0	0	0
Emblematic	Independent mentions	D	↓	0	0

E = expected; D = delighters; 0 = no interest; 1 = value scales with attribute; Ψ = detractor

Scale to include other stakeholders: visitors, predators, competitor poultry Scale to include other features and attributes: loveliness (total size), protection (time circling)

What lessons about value emerge from the coffee example?
Name a surprising stakeholder or previously unconsidered feature.
Notes

Example Step 2: Shopping Cart (A System)

- 1. Identify alternate offerings of the product, process, or service in question.
- 2. Establish the baseline model for comparison.
- 3. Rank alternates against feature list using relative values.

D1 = standard cart



D2 = small mobile



D3 = IDEO modern



Relative Value	-1	-0.9	-0.8	-0.7	-0.6	-0.5	-0.4	-0.3	-0.2	-0.1	0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	8.0	0.9	1
Feature Name																					
Transport Groceries						D2,D3					D1										
Maneuverable											D1			D2					D3		
Transport Child		D2									D1			D3							
Long Life									D3		D1,D2										
Affordable						D3					D1		D2								
Profitable					D3						D1	D2									
Attractive											D1			D2			D3				
Nestable											D1	D2	D3								
Weather resistant									D3		D1,D2										
Agile Shopping											D1		D2						D3		
Theft Deterrence											D1,D2					D3					
Safety Child Seating											D1,D2					D3					
Location Assistance											D1,D2									D3	
Checkout on Go											D1,D2									D3	
Shopper Privacy											D1,D2,D3										
Manufacturable								D3			D1,D2										

Scale to include other alternate designs: cart with child's car, motorized cart, carry basket, transport cart











Applications of the Model

Faculty Work

Stakeholders	Features	Attributes

Possible Versions of "Faculty"	
•	•
•	•
•	•
•	•
•	•
Reflection & Integration	
What is value? Who determines value? Ho	w is a value assessment captured or characterized?
Identify one way that these ideas have relev	vance to a class you teach or experience you lead.
For the model of faculty work, describe son	mething that stood out or you hadn't considered.
Tot the model of faculty work, describe son	meming that stood out or you hadn't considered.

Notes	

References

Tantalo, C. & R. L. Priem. 2014. Value creation through stakeholder synergy. Strategic Management Journal 37(2): 314-329.

Navarro-García, A., M. Peris-Ortiz, & C. Rueda-Armengot. 2015. Value co-creation, collaborative learning and competences in higher education. In M. Peris-Ortiz, J.M. Merigó Lindahl (eds.), *Sustainable Learning in Higher Education: Developing Competencies for the Global Marketplace*. Springer International, Switzerland.

Vargo, S. L., P. P. Maglio, & M. A. Akaka. 2008. On value and value co-creation: a service systems and service logic perspective. European Management Journal 26: 145-152.

Kline, W., W. Schindel, A. Bernal, & M. Simoni. 2017. Development of enhanced value, feature, and stakeholder views for a model-based design approach. American Society for Engineering Education Annual Conference, Columbus OH.