MARKETING ANALYTICS I:

CREATING VALUE FOR CUSTOMERS: VALUE IN USE

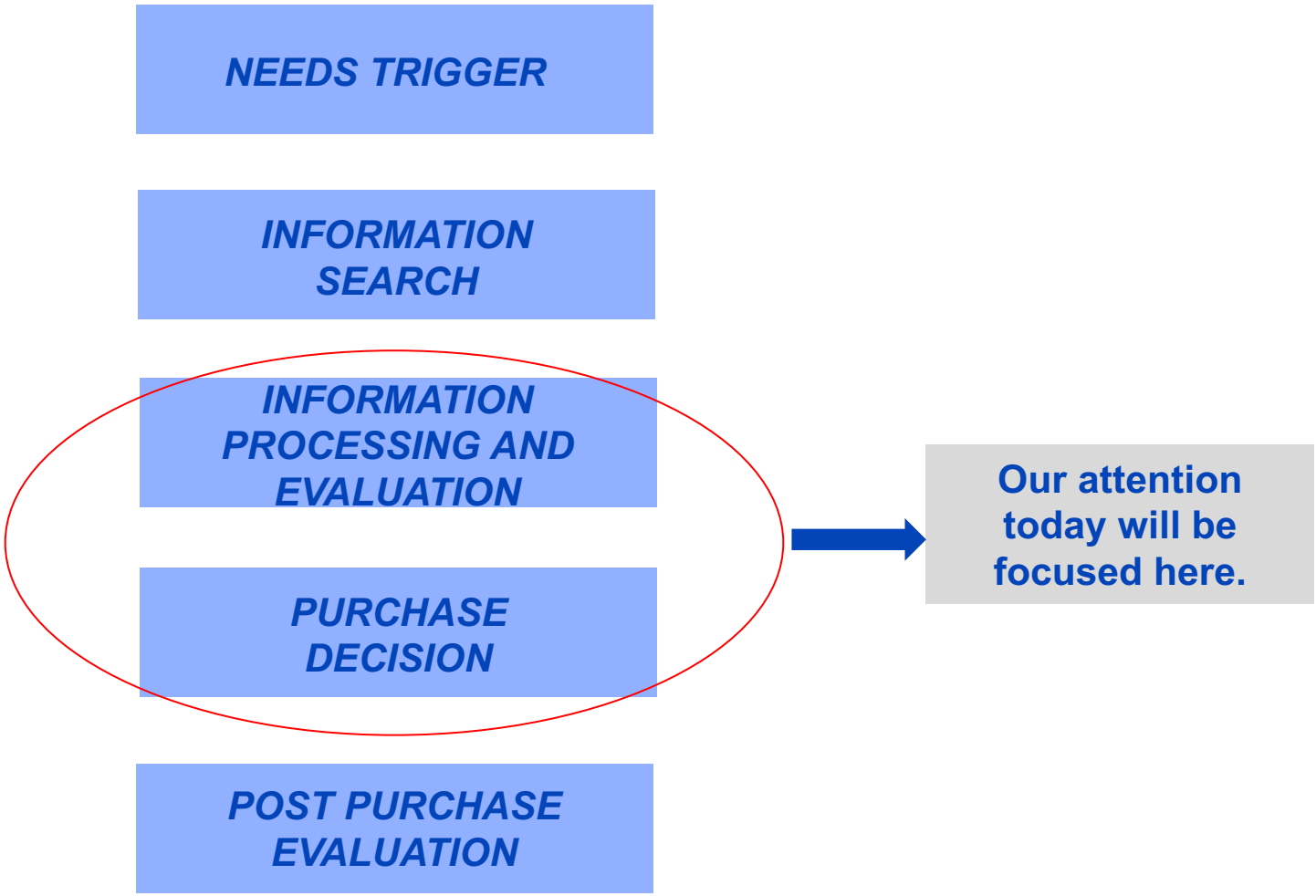
Professor Sonnier

Texas MSBA Program

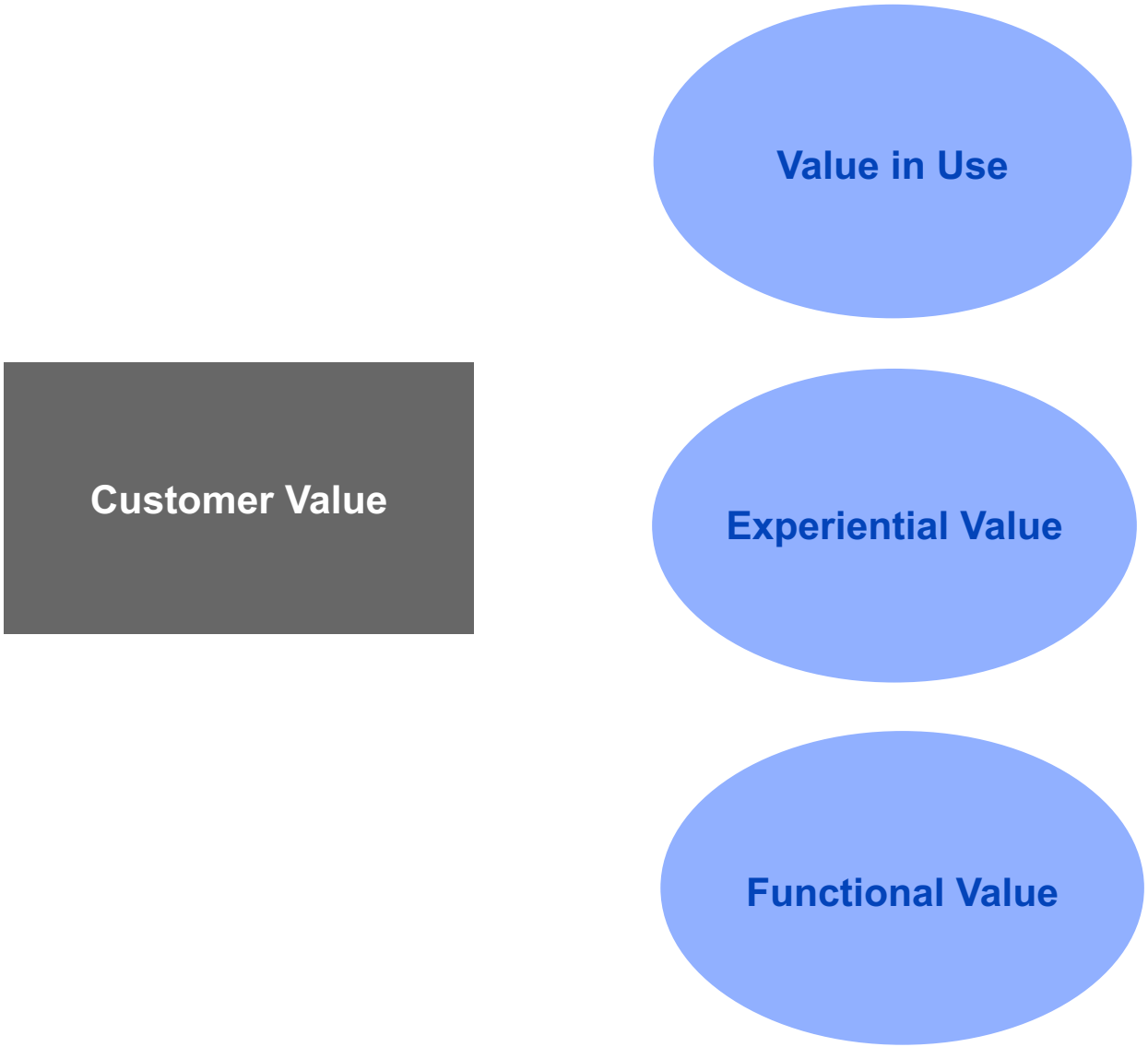
Fall 2022

CONSUMER BEHAVIOR

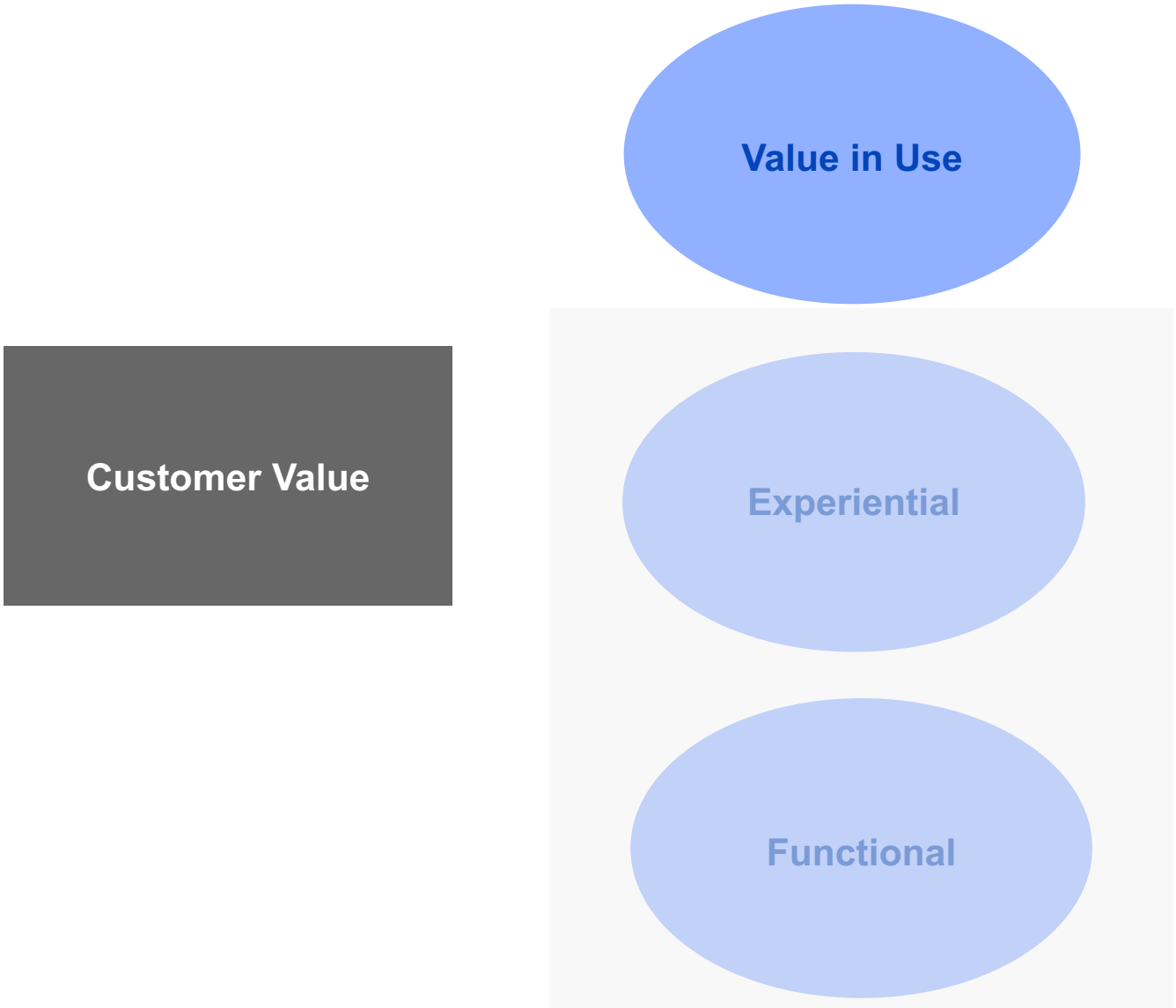
A Model of The Decision Making Process



Types of Customer Value



Types of Customer Value



MARKETING ANALYTICS

Value in Use

ARCH

The New York Times

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ıd 2 Japanese
ıare Nobel for
D Lights

Nobel Prize in Medicine Is Awarded to Three Who Discovered Brain's 'Inner GPS'

NATURE IN THE BALANCE
For Polar Bears, a Climate Change Twist

DOT EARTH BLOG
David Roberts Questions Naomi Klein's Capitalism-Focused Climate Quest

1.

The Secret Casualties of Iraq's Abandoned Chemical Weapons

SCIENCE

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American and 2 Japanese Physicists Share Nobel for Work on LED Lights

By DENNIS OVERBYE OCT. 7, 2014

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MICHAEL KEATON

Three physicists have been awarded the Nobel Prize for revolutionizing the way the world is lighted.

The 2014 physics award went to Isamu Akasaki and Hiroshi Amano of Japan and Shuji Nakamura of the University of California, Santa Barbara, for "the invention of efficient blue light-emitting diodes, which has enabled bright and energy-saving white light sources."

The three scientists, working together and separately, found a way to produce blue light beams from semiconductors in the early 1990s. Others had produced red and green diodes, but without blue diodes, white light could not be produced, the Royal Swedish Academy of Sciences said on Tuesday morning in its prize citation.

"They succeeded where everyone else had failed," the academy said.

Take a Fit Test

Challenge Memory, Attention, and more

lumosity

Take Fit Test

Value in Use

Value in Use for 50,000 hours of light		
	Incandescent	**LED**
Watts per Bulb	60	10
kWh electricity (50K hrs.)	3,000	500
Cost of electricity ($0.10/kWh)	$300	$50

- **Value of New Tech + Cost to Operate New Tech = Cost to Own and Operate Existing Tech**
- **Value of New Tech + $50= $352.50 so Value of New Tech = $302.50**
- **Will the customer be willing to pay this?**

MARKETING ANALYTICS

PPHMI: Record Label Economics

Exhibit 3b Top 10 Music Markets, by Retail Value, 2002

	Units (in millions)							
	Singles	LPs[a]	MCs[b]	CDs	DVD	VHS	Retail Value ($ millions)	Annual Growth in Unit Sales
U.S.	8.4	1.7	32.4	803.3	10.7	3.5	12,609	-10.4%
Japan	77.1	2.2	4.6	228.9	11.0	2.1	5,001	-9.9%
U.K.	52.5	2.2	1.9	221.6	3.6	1.5	2,936	-0.9%
Germany	39.0	1.1	14.3	179.4	3.8	3.3	2,091	-4.7%
France	40.5	0.5	5.0	130.4	3.1	0.8	2,070	3.1%
Canada	0.6	-	1.1	57.0	1.6	1.2	621	-5.4%
Italy	3.5	0.0	3.4	36.8	0.4	0.2	565	9.3%
Spain	2.2	0.0	2.4	61.7	0.5	0.0	551	-17.9%
Australia	11.9	0.0	0.6	49.2	2.4	0.2	532	-3.0%
Mexico	0.6	0.0	2.9	51.1	-	0.9	462	-3.3%
Top 10 Markets	**236.3**	**7.7**	**68.6**	**1819.4**	**37.1**	**13.7**	**22,442**	
All Markets	**265.0**	**8.6**	**478.9**	**2,247.1**	**63.6**	**16.1**	**32,281**	

Source: Adapted from International Federation of the Phonographic Industry (IFPI).

[a] LP denotes "long-playing phonograph record."

[b] MC denotes "microcassette."

- **2.2 billion CD units sold over 30,000 releases implies average sales of ~75,000 units per release**
- **2,500 albums released with a single**

MARKETING ANALYTICS

PPHMI: Record Label Economics

- Fewer than 15% of Released Titles are Profitable!
- Only 10% of singles chart

- Average sales of 2002 Top 25 albums is 3MM units
- 65 albums sold over 1MM units
- Having a Top 40 single is best indicator of profitability

POLYPHONIC HMI

Record Company Economics

Price Breakdown for Album		
Suggested Retail Price	$	17.00
Average Retail Price (exhibit 4)	$	15.00
Price to Retailers	$	10.50
Royalties to Artist (10% of suggested retail price)	$	1.70
Fees to publisher (5% of price to retailer)	$	0.53
A&R expenses (15% of price to retailer)	$	1.58
Manufacturing/Distribution Costs (10% of price to retailer)	$	1.05
Administrative Expenses (10% of price to retailer)	$	1.05
Cost Summary	$	5.90
Record Company Margin	$	4.60

- **What are total production and marketing costs?**
- **What are the breakeven quantities on total production and marketing costs?**

MARKETING ANALYTICS

PPHMI: Record Label Economics

- **Fewer than 15% of Released Titles are Profitable!**
- **Margins are ~$4.60 per album**

Record Company Break Even Analysis (albums)

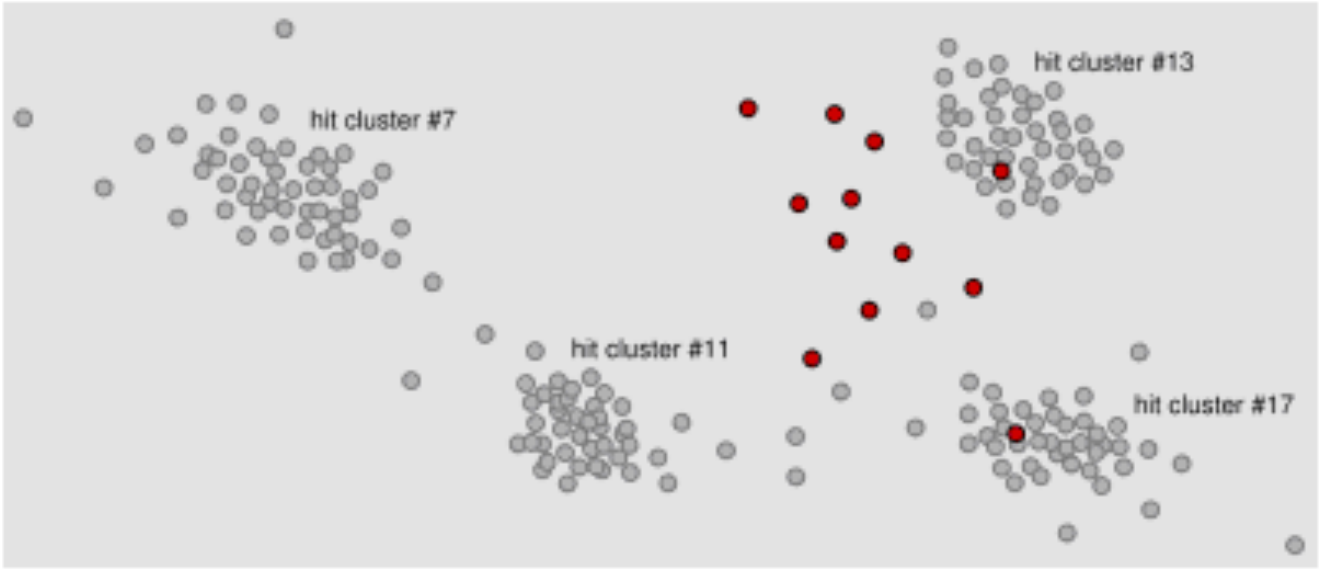
For new artists		
Marketing and Production Costs	$	400,000
Profit Margin	$	4.60
Breakeven Qty.		86,957
For established artists		
Marketing and Production Costs	$	2,000,000
Profit Margin	$	4.60
Breakeven Qty.		434,783

PPHMI: Value in Use

- Industry Situation
  - 10% success rate
  - <15% of releases are profitable
- Value
  - Probability of correct prediction: 80%
  - Can we quantify the value of *Hit Song Science*?

Polyphonic HMI: The Basic Idea Behind Hit Song Science

- Hit songs group into 50-60 clusters
- Compare the mathematical properties of new songs to the properties of the hit clusters
- If new song falls in a cluster it has a high chance of being a hit



MARKETING ANALYTICS

PPHMI: Value in Use

EVC Template (from Canvas Session 2 Folder)

Economic Value of Hit Song Science						
	STATUS QUO	HSS				
Trials (Albums with Singles)	100					
Hits (Single Reaches Top 40)	10	?				
Failures (Single Does Not Reach Top 40)	90					
Current Hit Rate	10%					
REVENUES*				***ECONOMIC VALUE: NEW ARTISTS***	***STATUS QUO***	***HSS***
Single Does Not Reach Top 40	$ 10,000			Songs Launched	100	
Album w/ Single That Does Not Reach Top 40	$ 90,000			Revenues	$ 31,000,000	
TOTAL REVENUES W/ FAILURE	***$ 100,000***			Costs	$ 40,000,000	
				Expected Profits	(9,000,000)	
Single Reaches Top 40	$ 200,000					
Album w/Single that Reaches Top 40	$ 2,000,000			***ECONOMIC VALUE: ESTABLISHED ARTISTS***		***HSS***
TOTAL REVENUES W/SUCCESS	***$ 2,200,000***			Songs Launched	100	
				Revenues	$ 31,000,000	
COSTS				Costs	$ 200,000,000	
	New Artists	Established Artists		Expected Profits	(169,000,000)	
Production Costs	$ 100,000	$ 1,000,000				
Marketing Costs	$ 300,000	$ 1,000,000				
TOTAL COSTS	***$ 400,000***	***$ 2,000,000***				
*USING FIGURES FOR MEDIUM CASE ON PAGE 9						

MARKETING ANALYTICS

PPHMI: Value in Use

- Label chooses it's 100 albums to launch
- How well does algorithm predict?

Actuals	Hit	Fail	Totals	HSS Efficacy
HSS Predicts Hits				
HSS Predicts Fails				
Launch				

- Launch only the 26 predicted hits: 18 false positives (Type I error)
- Do not launch 74 predicted failures: 2 false negatives (Type II error)

POLYPHONIC HMI

Value Creation

HIT RATES		
	STATUS QUO	HSS
Launch	100	26
Hits	10	8
Failures	90	18
Hit Rate	10%	31%
REVENUES*		
Single Does Not Reach Top 40	$ 10,000	
Album w/ Single That Does Not Reach Top 40	$ 90,000	
TOTAL REVENUES W/ FAILURE	***$ 100,000***	
Single Reaches Top 40	$ 200,000	
Album w/Single that Reaches Top 40	$ 2,000,000	
TOTAL REVENUES W/SUCCESS	***$ 2,200,000***	
COSTS	New Artists	Established Artists
Production Costs	$ 100,000	$ 1,000,000
Marketing Costs	$ 300,000	$ 1,000,000
TOTAL COSTS	***$ 400,000***	***$ 2,000,000***
*REVENUES ESTIMATED USING FIGURES FOR MEDIUM CASE		

MARKETING ANALYTICS

PPHMI: Value in Use

ESTABLISHED ARTISTS	LOW CASE				
	Current	w/HSS			
Launch	100.00	26.00			
Revenues	$ 4,000,000	$ 3,200,000			
Costs	$ 200,000,000	$ 52,000,000	Improvement		
Expected Profits	$ (196,000,000)	$ (48,800,000)	$ 147,200,000		
ESTABLISHED ARTISTS	MEDIUM CASE				
	Current	w/HSS			
Launch	100.00	26.00			
Revenues	$ 31,000,000	$ 19,400,000			
Costs	$ 200,000,000	$ 52,000,000	Improvement		Wtd. Average
Expected Profits	$ (169,000,000)	$ (32,600,000)	$ 136,400,000		$ 125,100,000
ESTABLISHED ARTISTS	HIGH CASE				
	Current	w/HSS			
Launch	100.00	26.00			
Revenues	$ 456,000,000	$ 343,200,000			
Costs	$ 200,000,000	$ 52,000,000	Improvement		
Expected Profits	$ 256,000,000	$ 291,200,000	$ 35,200,000		

MARKETING ANALYTICS

PPHMI: Value in Use

NEW ARTISTS	LOW CASE				
	Current	w/HSS			
Launch	100.00	26.00			
Revenues	$ 4,000,000	$ 3,200,000			
Costs	$ 40,000,000	$ 10,400,000	Improvement		
Expected Profits	$ (36,000,000)	$ (7,200,000)	$ 28,800,000		
NEW ARTISTS	MEDIUM CASE				
	Current	w/HSS			
Launch	100.00	26.00			
Revenues	$ 31,000,000	$ 19,400,000			
Costs	$ 40,000,000	$ 10,400,000	Improvement		Wtd Average
Expected Profits	$ (9,000,000)	$ 9,000,000	$ 18,000,000		$ 6,700,000
NEW ARTISTS	HIGH CASE				
	Current	w/HSS			
Launch	100.00	26.00			
Revenues	$ 456,000,000	$ 343,200,000			
Costs	$ 40,000,000	$ 10,400,000	Improvement		
Expected Profits	$ 416,000,000	$ 332,800,000	$ (83,200,000)		

POLYPHONIC HMI

Basic Company Economics

- Are Polyphonic's breakeven economics favorable or unfavorable?

- Annual fixed costs are $500K
- PPHMI costs are $300 for a 10 song album

- Labels spend $3,000-$10,000 per song for research
- Let's assume labels currently test 3 songs per album

- ✓ Price @ $30K: $500K/$29,700=17 album reports
- ✓ Price @ $9K: $500K/$8,700=57 album reports

PPHMI: Value in Use

- Despite the value created by HSS, it was not widely adopted

- Advantage (relative to status quo)
- Compatibility (with existing systems)
- Complexity (easy to understand)
- Observable (benefits)
- Risk (of failure)
- Divisibility (Easy to try?)

MARKETING ANALYTICS

Research from Sony Computer Science Labs

Pachet, F. and Roy, P. "Hit Song Science is Not yet a Science", Proc. of Ismir '08, Philadelphia, pp. 355-360

HIT SONG SCIENCE IS NOT YET A SCIENCE

François Pachet
Sony CSL
pachet@csl.sony.fr

Pierre Roy
Sony CSL
roy@csl.sony.fr

ABSTRACT

We describe a large-scale experiment aiming at validating the hypothesis that the popularity of music titles can be predicted from global acoustic or human features. We use a 32.000 title database with 632 manually-entered labels per title including 3 related to the popularity of the title. Our experiment uses two audio feature sets, as well as the set of all the manually-entered labels but the popularity ones. The experiment shows that some subjective labels may indeed be reasonably well-learned by these techniques, but not popularity. This contradicts recent and sustained claims made in the MIR community and in the media about the existence of "Hit Song Science".

1. INTRODUCTION

Claims have recently been formulated about the possibility of a "Hit Science" that aims at predicting whether a given cultural item, e.g. a song or a movie, will be a hit, prior to its distribution. Such claims have been made in the domains of music [4] as well as movie [7], and are the basis of hit counseling businesses [9], [17].

In particular, [4] describe an experiment in which a system is trained to learn a mapping between various musical features extracted from the acoustic signal and from the lyrics, and the popularity of the song. They conclude from this experiment that their system learns something about popularity, and so that Hit Song Science is indeed possible.

However, the idea that popularity can be inferred from such technical features contradicts the natural intuitions of any musically-trained composer.

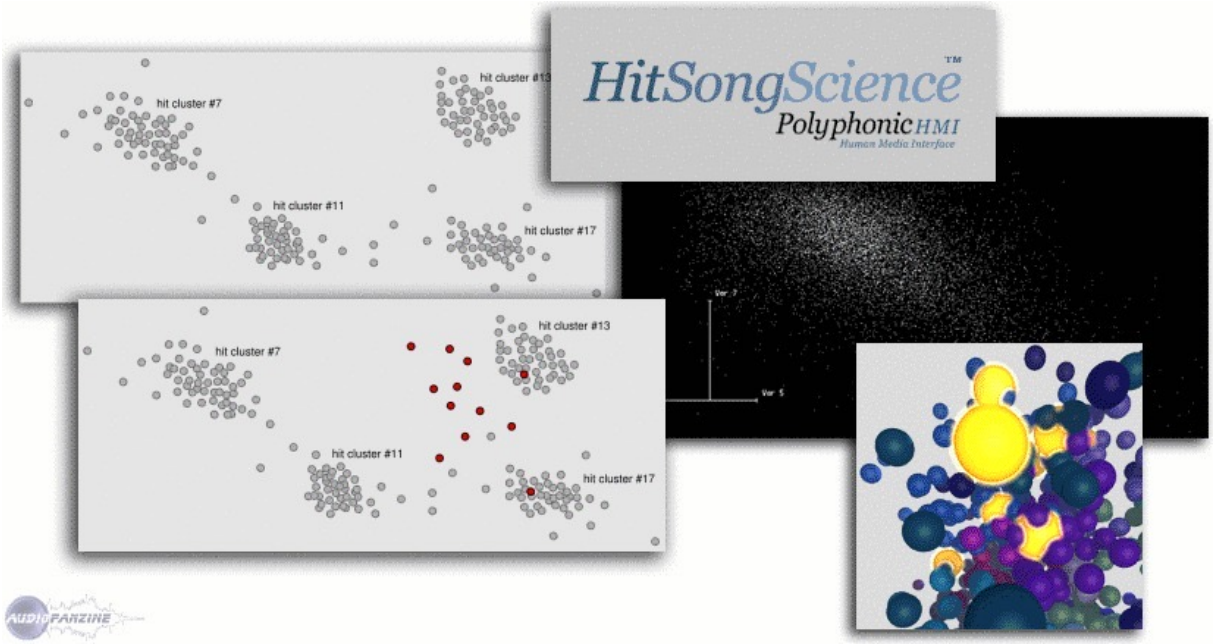
In this paper, we describe a larger-scale and more complete experiment designed to further validate this claim. We use a 32.000 song database of popular music titles, associated with fine-grained human metadata, in the spirit of the Pandora effort [16]. To ensure that the experiment is not biased, we use three sets of different features. We describe the various experiments conducted and conclude that popularity is basically not learned by any of these feature sets.

2. EXTRACTING GLOBAL DESCRIPTORS

The most widely used approach to extract global

MARKETING ANALYTICS

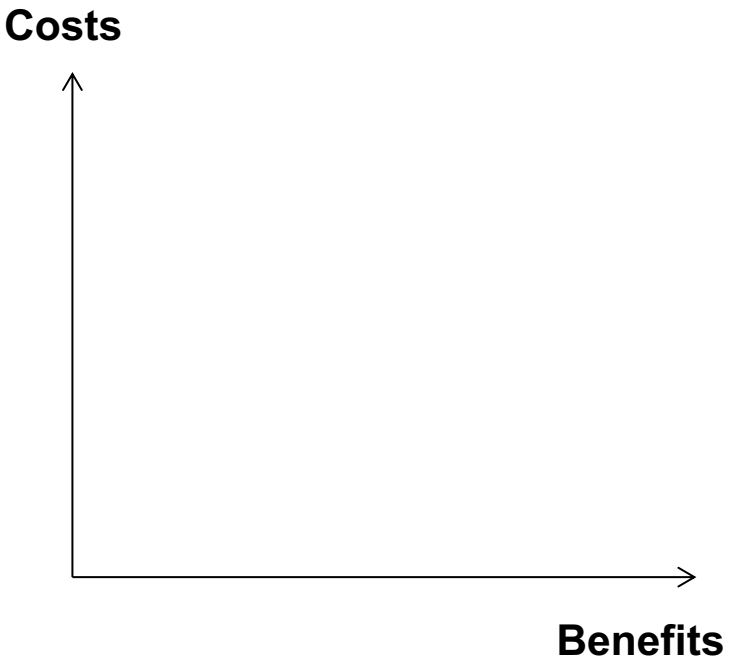
Machine vs. Machine



versus

Value in Use

What is the Value of a Hybrid Automobile?



Value in Use for the Toyota Prius

~50 MPG (city/hwy combined)

~30 MPG(city/hwy combined)

- 12,000 miles/50 mpg = 240 gal
- 12,000 miles/30 mpg = 400 gal
- Annual fuel savings of 160 gal
  - @$2.00 per gal = $320 per year
  - @$4.00 per gal = $640 per year

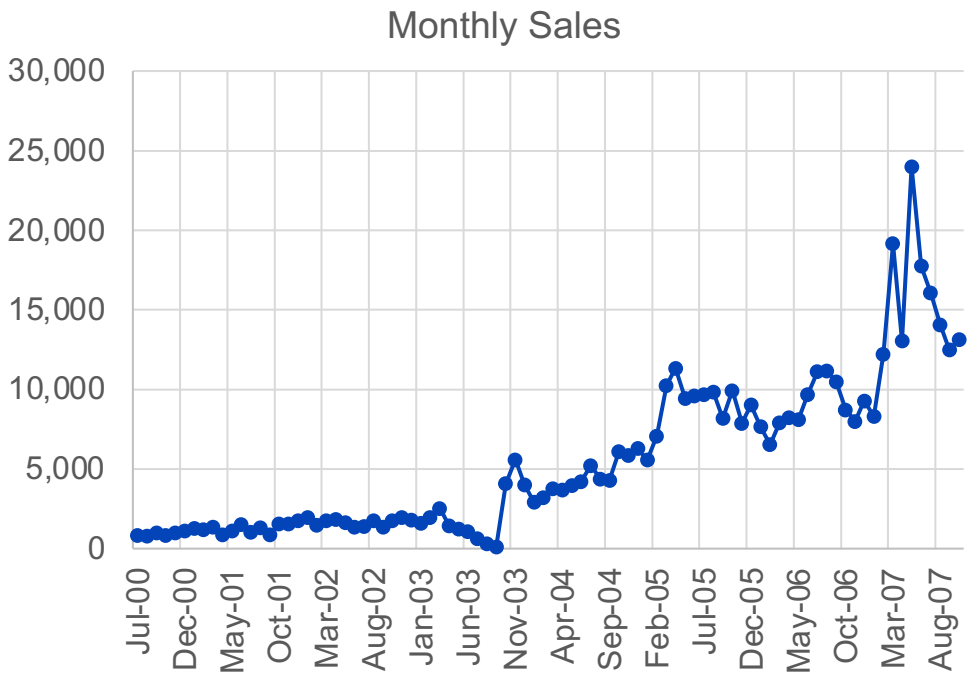
~$25,000 MSRP

~$19,000 MSRP

MARKETING ANALYTICS

Value in Use

Prius Sales by Month



- ***Download data file from Canvas (in Session 2 Folder)***
- ***For now use the data in the sales-gas tab***
- ***What is the effect of a $1 increase in gas prices on monthly sales?***

Value in Use

What Effect Do Gas Prices Have on Prius Sales?

Date	Sales	Gas Price
Aug-00	788	0.856481
Sep-00	981	0.899252
Oct-00	829	0.888506
Nov-00	989	0.880528
Dec-00	1,134	0.837931
Jan-01	1,298	0.837807
Feb-01	1,198	0.836746
Mar-01	1,378	0.807605
Apr-01	872	0.880158
May-01	1,126	0.950478
Jun-01	1,534	0.891011
Jul-01	1,037	0.778028
Aug-01	1,311	0.801127
Sep-01	862	0.863152
Oct-01	1,580	0.738323
Nov-01	1,580	0.663472
Dec-01	1,780	0.628749
Jan-02	1,954	0.640316

Descriptive statistics (Quantitative data):

Statistic	Sales	Gas Price
Nbr. of observatio	87	87
Minimum	112.000	0.629
Maximum	24009.000	1.518
1st Quartile	1469.000	0.815
Median	4025.000	0.950
3rd Quartile	8880.000	1.154
Mean	5564.989	1.006
Variance (n-1)	24547606.500	0.055
Standard deviatior	4954.554	0.234

$$(\text{sales}) = a + b \times (\text{gas price}) + e$$

- ***What do we learn from this simple linear model?***

Value in Use

Are Gas Prices Affecting Prius Sales?

Linear Regression

Model parameters (Sales):

Source	Value	Standard error	t	Pr > |t|	Lower bound (95%)	Upper bound (95%)
Intercept	-12920.5	1170.8	-11.0	**< 0.0001**	-15248.3	-10592.7
Gas Price	18373.5	1133.7	16.2	**< 0.0001**	16119.5	20627.5

$$\text{Sales}_t = -12,920.5 + 18,373.5 \times \text{Gas Price}_t$$

$$\frac{\Delta \text{Sales}}{\Delta \text{Gas Price}} = 18,373.5$$

- *The marginal effect is the unit change in sales given a unit change in gas prices*
- *For the linear regression model the marginal effect of a change in gas prices is constant (i.e., it is the same everywhere along the line)*

Value in Use

What is the Elasticity of Sales with respect to Gas Price?

$$E_{S|P} = \frac{\%\Delta \text{Sales}}{\%\Delta \text{Gas Price}} = \frac{\frac{\Delta \text{Sales}}{\text{Sales}}}{\frac{\Delta \text{Gas Price}}{\text{Gas Price}}} = \frac{\Delta \text{Sales}}{\Delta \text{Gas Price}} \times \frac{\text{Gas Price}}{\text{Sales}}$$

$$\text{Sales}_t = -12,920.5 + 18,373.5 \times \text{Gas Price}_t$$

$$E_{S|P} = \frac{\%\Delta \text{Sales}}{\%\Delta \text{Gas Price}} = 18,373.5 \times \frac{\text{Gas Price}}{\text{Sales}}$$

- ***For the linear regression model the elasticity depends on which sales-price pair you choose (i.e., where you are located on the line matters!)***

Value in Use

What Effect Do Gas Prices Have on Prius Sales?

Date	Sales	Gas Price
Aug-00	788	0.856481
Sep-00	981	0.899252
Oct-00	829	0.888506
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Sep-01	862	0.863152
Oct-01	1,580	0.738323
Nov-01	1,580	0.663472
Dec-01	1,780	0.628749
Jan-02	1,954	0.640316
Feb-02	1,481	0.634983

Descriptive statistics (Quantitative data):

Statistic	Sales	Gas Price
Mean	5564.989	1.006
Variance (n-1)	24547606.500	0.055
Standard deviatior	4954.554	0.234

$$E_{S|P} = \frac{\%\Delta \text{Sales}}{\%\Delta \text{Gas Price}} = 18,373.5 \times \frac{1.00}{5,565}$$

$$E_{S|P} = \frac{\%\Delta \text{Sales}}{\%\Delta \text{Gas Price}} = 3.30$$

- ***A 10% increase in gas prices yields a 33% increase in monthly Prius sales***

Value in Use

What Effect Do Gas Prices Have on Prius Sales?

Linear Regression

Model parameters (Sales):

Source	Value	Standard error	t	Pr > |t|	Lower bound (95%)	Upper bound (95%)
Intercept	-12920.5	1170.8	-11.0	**< 0.0001**	-15248.3	-10592.7
Gas Price	18373.5	1133.7	16.2	**< 0.0001**	16119.5	20627.5

Marginal Effect of Gas Prices on Sales

$$\frac{\Delta \text{Sales}}{\Delta \text{Gas Price}} = 18,373.5$$

Elasticity of Sales with respect to Gas Prices

$$E_{S|P} = \frac{\%\Delta \text{Sales}}{\%\Delta \text{Gas Price}} = 18,373.5 \times \frac{1.00}{5,565} = 3.30$$

Value in Use

Let's Consider Some Nonlinear Equations

	Equation	Marginal Effect*
(1)	$y = a + xb$	$\frac{\Delta y}{\Delta x} = b$
(2)	$y = a + b\ln(x)$	$\frac{\Delta y}{\Delta x} = \frac{b}{x}$
(3)	$\ln(y) = a + xb$ $y = \exp(a + xb)$	$\frac{\Delta y}{\Delta x} = b\exp(a + xb) = by$

*Marginal Effect refers to the unit change in y given a unit change in x

Value in Use

What Effect Do Gas Prices Have on Prius Sales?

Date	LN(Sales)	LN(Gas Prices)
Aug-00	6.66949809	-0.154922583
Sep-00	6.88857246	-0.106192436
Oct-00	6.720220155	-0.118214163
Nov-00	6.896694332	-0.127233061
Dec-00	7.033506484	-0.17681948
Jan-01	7.168579897	-0.176967554
Feb-01	7.088408779	-0.178234358
Mar-01	7.228388452	-0.213682208
Apr-01	6.770789424	-0.127653522
May-01	7.026426809	-0.050789911
Jun-01	7.335633982	-0.115398241
Jul-01	6.944087208	-0.250992549
Aug-01	7.178545484	-0.221736092
Sep-01	6.759255271	-0.147164484
Oct-01	7.365180126	-0.303373859
Nov-01	7.365180126	-0.410268056
Dec-01	7.484368643	-0.464022683
Jan-02	7.577633833	-0.445793153
Feb-02	7.300472814	-0.454156852
Mar-02	7.474772182	-0.350779022

Log-Log Model

$$\ln(\text{sales}) = a + b \times \ln(\text{gas price}) + e$$

Source	Value	Standard error	t	Pr > |t|	Lower bound (95%)	Upper bound (95%)
Intercept	8.231	0.070	117.573	**< 0.0001**	8.092	8.370
LN(Gas Prices)	3.714	0.308	12.042	**< 0.0001**	3.101	4.327

Marginal Effect of Gas Prices on Sales

Elasticity of Sales with respect to Gas Prices

Value in Use

What Effect Do Gas Prices Have on Prius Sales?

Source	Value	Standard error	t	Pr > |t|	Lower bound (95%)	Upper bound (95%)
Intercept	8.231	0.070	117.573	**< 0.0001**	8.092	8.370
LN(Gas Prices)	3.714	0.308	12.042	**< 0.0001**	3.101	4.327

Marginal Effect of Gas Prices on Sales

$$\ln(\text{Sales}) = a + b \times \ln(\text{Gas Price}) + e$$

$$\frac{\Delta \text{Sales}}{\Delta \text{Gas Price}} = b \times \frac{\text{Sales}}{\text{Gas Price}}$$

- **In the Log-Log model the marginal effect of gas prices on sales depends on which sales-price pair you choose (i.e., the marginal effect depends on where you are located on the curve)**

Value in Use

What is the Elasticity of Sales with respect to Gas Price?

$$E_{S|P} = \frac{\%\Delta \text{Sales}}{\%\Delta \text{Gas Price}} = \frac{\frac{\Delta \text{Sales}}{\text{Sales}}}{\frac{\Delta \text{Gas Price}}{\text{Gas Price}}} = \frac{\Delta \text{Sales}}{\Delta \text{Gas Price}} \times \frac{\text{Gas Price}}{\text{Sales}}$$

For the Log-Log Model

Elasticity of Sales with respect to Gas Prices

$$b \times \frac{\text{Sales}}{\text{Gas Price}} \times \frac{\text{Gas Price}}{\text{Sales}} = b$$

- In the Log-Log model the elasticity of sales with respect to gas prices is constant (i.e., it does not matter where you are along the curve). It is given by the beta coefficient from the regression.

Value in Use

For the Log-Log Model

Marginal Effect of Gas Prices on Sales

$$b \times \frac{\text{Sales}}{\text{Gas Price}}$$

Elasticity of Sales with respect to Gas Prices

$$b$$

- **In the Log-Log model the elasticity of sales with respect to gas prices is constant (i.e., it does not matter where you are along the curve). It is given by the beta coefficient from the regression.**

Value in Use

➢ *We have two models*

Log-Log Model

$$\ln(\text{Sales}) = a + b \times \ln(\text{Gas Price}) + e$$

Linear Model

$$\text{Sales} = a + b \times (\text{Gas Price}) + e$$

➢ *Which model do we prefer?*

Log-Log Model

Goodness of fit statistics (LN(Sales)):	
Observations	87.000
R^2	0.630
Adjusted R^2	0.626

Linear Model

Goodness of fit statistics (Sales):	
Observations	87.000
R^2	0.756
Adjusted R^2	0.753

Value in Use

What Effect Do Gas Prices Have on Prius Sales?

Linear Regression

Model parameters (Sales):

Source	Value	Standard error	t	Pr > |t|	Lower bound (95%)	Upper bound (95%)
Intercept	-12920.5	1170.8	-11.0	**< 0.0001**	-15248.3	-10592.7
Gas Price	18373.5	1133.7	16.2	**< 0.0001**	16119.5	20627.5

Marginal Effect of Gas Prices on Sales

$$\frac{\Delta \text{Sales}}{\Delta \text{Gas Price}} = 18,373.5$$

Elasticity of Sales with respect to Gas Prices

$$E_{S|P} = \frac{\%\Delta \text{Sales}}{\%\Delta \text{Gas Price}} = 18,373.5 \times \frac{1.00}{5,565} = 3.30$$

Value in Use

What Effect Do Gas Prices Have on Prius Sales?

Date	Sales	Gas Price
Aug-00	788	0.856481
Sep-00	981	0.899252
Oct-00	829	0.888506
Nov-00	989	0.880528
Dec-00	1,134	0.837931
Jan-01	1,298	0.837807
Feb-01	1,198	0.836746
Mar-01	1,378	0.807605
Apr-01	872	0.880158
May-01	1,126	0.950478
Jun-01	1,534	0.891011
Jul-01	1,037	0.778028
Aug-01	1,311	0.801127
Sep-01	862	0.863152
Oct-01	1,580	0.738323
Nov-01	1,580	0.663472
Dec-01	1,780	0.628749
Jan-02	1,954	0.640316
Feb-02	1,481	0.634983

- What else to consider?
  - Seasonality?
  - Dynamic Effects?
  - Marketing Mix Effects?
  - Other Factors?

Prius Value

- How Does Prius fare in the ACCORD framework?

- Advantage (relative to status quo)
- Compatibility (with existing systems)
- Complexity (easy to understand)
- Observable (benefits)
- Risk (of failure)
- Divisibility (Easy to try?)

Key Concepts from Today

- Consumers derive value from goods and services in different ways
  - Value in Use
  - Functional Value
  - Experiential Value
- Value is Use is the value consumers derive from using a good or service relative to the status quo
- Value is Use is not generally equal to the price a firm may charge
  - *Competition*
  - *Other dimensions of value*
  - *Other dimensions of consumer behavior*
- Creating value in use is not the only determinant of new product adoption
  - ACCORD

Next Week in Marketing Analytics

Tuesday 8/30/22---Session 3: Customer Mindset Metrics

Reading: *Methods for Producing Perceptual Maps from Data*

Thursday 9/1/22---Session 4: Measuring Customer Preferences

Reading: *Managerial Overview of Conjoint Analysis*
(available in Session 4 folder on Canvas)