## **Inland Audience Development**

Mather Economics LLC

June 7, 2016

Path to Sustainable Circulation: Starts = Stops

### Acquire:

- Maximize start value/volume
  Retain
- Minimize churn

### Renew:

Leverage willingness-to-pay

## Upgrade:

• Grow customer engagement

## Reacquire:

• Target offers based on history



A few good ideas that are working; digital aspects to several

- Acquisition "contracts"
- Targeted reacquisition
- Event-triggered targeted messaging
- Targeted free & paid upgrades
- Digital engagement included pricing algorithm
- Churn modeling
- Targeted house ads/3<sup>rd</sup> party sites
- Fee revenue acquisition, paper bill

# Acquire





© MATHER ECONOMICS

### Acquisition Strategies: CLV to Enhance Conversion





New acquisition offer terms – Multi-year subscriptions maintain offer price for long time in return for commitment



mather.

#### Copyright 2015 Mather Economics LLC. All rights reserved.

### Starts have increased YOY by 9,500



### Volume of start-years has increased 130%



## mather:

8

### Churn reduction as a result of the multi-year acquisition strategy



## mather:

9

### Paid circulation has increased as



### Year over year print volume growth of 5,000 subscribers – It is newsworthy

### NRC ends 2015 5.000 subscriptions higher



PRESS RELEASE Amsterdam, Friday, May 17, 2016

NRC 2015 was a year of innovation and change. It appears from the annual report Mediahuis Netherlands BV to Friday, May 27th, 2016 has been filed. Inspired by the dynamism of the new owner Mediahuis directors and chief editors rolled the strategy defined in 2013 further. This strategy rests on three pillars: NRC is building its digital activities, but continues to invest in paper products and wants to market the brand NRC.

### macher:

## P NRCZA NRD – Volume\*CLV peaks at 9.50/mo



© MATHER ECONOMICS

## ABO NRC 6DGS – Volume\*CLV peaks at 15.50/mo



© MATHER ECONOMICS

## ABO XT 6DGS – Volume\*CLV peaks at 17/mo



## P XTZA NXD – Volume\*CLV peaks at 9/mo



© MATHER ECONOMICS

# Retain





© MATHER ECONOMICS

### **Retention Strategies: Churn Modeling**

Mather historically focused on renewal pricing

- Data-driven method of optimizing renewal rates at the subscriber level
- Has effect of reducing pricing-related churn vs. traditional flat increases, **however**:

There still exists a churn problem

- Stops analyses showed majority of churn not related to price
- Validated through A/B testing

How can Mather help our clients reduce non-pricing related churn?

- Develop a model using existing subscriber data to estimate churn propensities at the subscriber level
- Markets can then segment market based on churn risk and take preemptive action to save at-risk subs

### Retention Strategies: Case Study - Applying Incentives to Churn Risk Accounts<sup>18</sup>

- Churn application pilot showed that significant churn reduction could be achieved with small-dollar incentives
- In the case of a \$1 greeting card among high churn probability subscribers, churn was reduced by 2.7 percentage points over a control group 90 days post application



### Retention Strategies: Case Study - Applying Incentives to Churn Risk Accounts<sup>19</sup>

- Tracking churn targets over time shows the "staying power" of the incentive is quite strong
- Reduction in churn vs control remains relatively stable at the 60, 90, and 120 day marks post application



### Retention Strategies: Case Study - Payment Data-Driven Dynamic Messaging<sup>20</sup>

- Analyzing payment patterns of individual subscribers allows for custom communication, resulting in more effective stop save touchpoints
- Applying dynamic email messaging, customized at the subscriber level, resulted in a 14% decline in non-pay stops versus a business-as-usual control group in one of our markets leveraging churn analytics

### Condition: Sub outside normal payment pattern (Avg. days + 1 SD)

#### Dynamic Message #1

John, thank you for being a valued subscriber. We hope you are pleased with your service. For assistance with your account, please call customer service at (555)555-5555. Condition: Sub outside normal payment pattern (Avg. days + 1 SD) <u>AND</u> no payment 14 days after message #1 Dynamic Message #2

John, this is a reminder that payment is now due. For assistance with payment, please call customer service at (555)555-5555. Condition: Sub outside normal payment pattern (Avg. days + 1 SD) <u>AND</u> no payment 14 days after message #2 Dynamic Message #3

John, this is a reminder that your payment is now past due. For assistance with payment, please call customer service at (555)555-5555.

### Retention Strategies: Case Study - Adjusting Touchpoints to Impact Expenses<sup>21</sup>

- In this case study, payment analysis showed that the last five retention touchpoints netted only 7% of total payments
- Recommend replacing some of these late touchpoints with less costly alternatives and move date of 2<sup>nd</sup> invoice up to realize revenue earlier



# Renew (MBP)



### mather:

© MATHER ECONOMICS

### Market Based Pricing Price elasticity is the foundation of every optimization





Large opportunities to increase revenue from price discrimination

A. Along the horizontal portions of the observed price/quantity combinations (blue line)

B. Relatively smaller opportunities around the vertical regions (orange shaded area) Smaller pool of subscribers can be subjected to elasticity driven price increase

- Since customers are very likely to value the publication differently (i.e would be willing to pay a range of maximum prices) uniform prices are most of the time suboptimal
- Some customers are priced too high, and thus likely will not start, or will stop before the second renewal
- Others are priced too low, and thus potential revenue is lost
- In the graph on the left, uniform price (suboptimal) areas are designated by the horizontal portions of the blue price line, where a large number of customers (with different valuations of the publication) are charged the same prices

# How does Mather estimate retention and price elasticity per customer?

- Parametric Survival Analysis
  - Performed over transaction history
  - Review historical pricing, subscription characteristics, and price changes per customer
- Originally developed for healthcare industry
  - Literally "survival" probability or incidence of disease at a certain point in time
  - Coefficients for all variables are produced
    - Measure impact of each customer attribute on retention and elasticity
    - Used in weekly pricing decisions

### Market Based Pricing – Survival analysis case study Predictive modeling results

Base Variable	Description	Variable	Coef.	Std. Err.	z score	P>z	[95% Conf.	Interval]
	Acquisiton Rate	startprice	0.10	0.0030	35.31	0.0000	0.0985	0.1100
	Price Difference	wpsp	-0.07	0.0055	-12.68	0.0000	-0.0808	-0.0591
Non-Ezpay	AutoPay	EZpay	0.23	0.0086	27.15	0.0000	0.2173	0.2512
Poor	Downscale	_lincome_2	0.13	0.0253	5.15	0.0000	0.0807	0.1797
	Lowermid	lincome_3	0.19	0.0242	7.87	0.0000	0.1428	0.2376
	Midscale	_lincome_4	0.23	0.0233	9.83	0.0000	0.1836	0.2751
	Uppermid	_lincome_5	0.21	0.0242	8.60	0.0000	0.1606	0.2555
	Upscale	_lincome_6	0.22	0.0237	9.38	0.0000	0.1756	0.2684
	Wealthy	_lincome_7	0.25	0.0243	10.18	0.0000	0.2001	0.2956
Younger	Middle Aged	_lage_2	0.01	0.0142	0.40	0.6910	-0.0221	0.0334
	Older	_lage_3	0.09	0.0129	7.01	0.0000	0.0654	0.1161
	Mature	_lage_4	0.16	0.0158	10.11	0.0000	0.1284	0.1902
5 week term	13 week term	_lperiod_1	0.17	0.0088	19.24	0.0000	0.1515	0.1858
	26 week term	_lperiod_2	0.20	0.0114	17.94	0.0000	0.1817	0.2263
	52 week term	_lperiod_4	0.25	0.0137	17.94	0.0000	0.2196	0.2735
	other terms	_lperiod_5	-0.05	0.0166	-3.04	0.0020	-0.0833	-0.0180
Frequency DS	Frequency FS	_lfreq_2	-0.31	0.0097	-31.56	0.0000	-0.3256	-0.2875
	Frequency SO	_lfreq_3	-0.19	0.0113	-16.99	0.0000	-0.2136	-0.1694
1 Price Increase	0 price increases	_IPI_tally_0	-0.03	0.0110	-2.50	0.0120	-0.0490	-0.0059
	2 price increases	_IPI_tally_2	0.47	0.0183	25.83	0.0000	0.4371	0.5089
	3 price increases	_IPI_tally_3	0.52	0.0191	27.26	0.0000	0.4842	0.5592
	4 price increases	_IPI_tally_4	0.52	0.0206	25.49	0.0000	0.4837	0.5643
	5 price increases	_IPI_tally_5	0.48	0.0240	20.09	0.0000	0.4345	0.5284
	6+ price increases	_IPI_tally_6	-0.52	0.0976	-5.37	0.0000	-0.7153	-0.3329
3 months between increases	No Increase	_ltime_betw_1	0.16	0.0286	5.47	0.0000	0.1003	0.2124
	6 months	_Itime_betw_5	0.34	0.0245	13.71	0.0000	0.2882	0.3844
	9 months	_Itime_betw_6	0.40	0.0246	16.41	0.0000	0.3558	0.4523
	1+ years	_Itime_betw_2	0.07	0.0308	2.19	0.0280	0.0071	0.1280
	12 months between	_Itime_betw_3	0.28	0.0261	10.58	0.0000	0.2251	0.3274

### Report Dashboard Summary : Tenure

- Stop rates trend significantly downward as tenure rises
- Incremental stop rates and elasticities also drop significantly with increased tenure



mather<sup>.</sup>

### Report Dashboard Summary : Digital Engagement

- As digital usage increases, overall stop rates trend downwards
- The highest level of digital usage has the lowest start price but maintains a significant incremental stop rate



### Price elasticity

Incremental stop rate

- How does **online engagement** affect retention of print subscribers, if at all?
- Listener<sup>™</sup> tool captures online data to create a holistic picture of customer
  - Listener data can enhance the effectiveness of print pricing by understanding how a customer's online engagement impacts print retention
  - Listener is installed on Lexington, Biloxi, and Miami websites (~1 year of data collected)



### Example of Digital Engagement Groups

• Case studies have shown that digitally-engaged subscribers have better retention relative to those with lesser engagement





• With a price change, **unregistered** subscribers showed **2.5%** incremental stop rate (targets compared to controls)



### 30

- With a price change, **registered** subscribers showed **1.4%** incremental stop rate (targets compared to controls)
  - Simply being registered on site reduces pricing sensitivity



#### 31

- With a price change, subscribers with **weekly digital usage** showed **0.8%** incremental stop rate (targets compared to controls)
  - Not only does being registered reduce pricing sensitivity, but the depth and breadth of engagement has an impact on print-only retention and price elasticity



- Prior case studies have shown that the most digitally engaged subscribers can be priced on 3x more aggressively than those who are not registered
- Stop rate will be equal under this scenario
- Digitally disengaged subscribers can be priced *less* aggressively to save stops
- Layering in digital engagement enhances effectiveness of dynamic pricing
  - Listener helps create a holistic picture of customers

# Upgrade





© MATHER ECONOMICS

### Upgrade Strategies: Targeted Upgrades

 Targeted upgrades using propensity modeling result in successful free and paid campaigns

### 5,400 Sample Size

✓ \$9.99/month
 ✓ \$12.99/month

### Low Cost Campaign to Test

- ✓ Email
- ✓ Telemarketing

### Test FREE and PAID Upgrades



### Upgrade Strategies: Targeted Upgrades

• Targeted upgrades using propensity modeling result in successful free and paid campaigns

						CLV VALUE			
Sunday Only Subscriber Segment	Offer	Thursday + Weekend Upgrade Offer	Sample Size	Upgrades	Conversion	Beginning	Post- Conversion	Impact	Total Value Gained
\$9.99/month - LOW CLV	Paid	\$12.99/month	3,554	113	3.18%	\$ 408.40	\$ 701.47	\$ 293.07	\$ 33,116.91
\$12.99/month - HIGH CLV (key ZIPs)	Free	\$12.99/month	711	201	28.27%	\$ 706.00	\$ 701.47	\$ (4.53)	\$ (910.53)
\$12.99/month - HIGH CLV (outside of key ZIPs)	Paid	\$14.99/month	1,145	101	8.82%	\$ 706.00	\$ 820.71	\$ 114.71	\$ 11,585.71
		TOTAL	5,410	415	7.67%				\$ 43,792.09
								EXPENSE	\$ 3,874.50
								NET GAIN	\$ 39,917.59

# **Digital Data**



© MATHER ECONOMICS

# Listener<sup>™</sup> intercepts data across online and offline vendors and provides its own tracking function

38



### Digital Metrics by Day of Week and Hour of Day

Select Met	ric	Select I	Date Range					۲ <mark>x</mark>
Page Views		▼ 1/24/201	6 🤇			- P	4/24/2	016
Hour	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	
00:00	114 202	106 929	96 281	97 016	83 611	105 614	121 747	
01:00	71 107	63 620	61 099	61 439	52 726	67 713	77 128	
02:00	44.453	46,906	44,903	45,778	40,429	49.339	53,559	
03:00	42,590	43,154	42,831	39,868	36,691	44,974	45.834	
04:00	41,226	55,596	54.031	51,392	46,498	57,183	46.356	
05:00	55,127	105,998	104.572	99.529	86,495	110,746	68,151	
06:00	102,795	203,175	209,193	198.056	176.699	206.819	133,296	
07:00	204,160	321.719	328.554	303.654	276.540	309,998	241,443	
08:00	279,554	405.661	414.268	388.570	357.278	402.913	302,229	
09:00	289,311	445,334	434,961	397.214	378,774	426,178	300,610	
10:00	283,831	431.887	396.877	340.041	346,982	404.239	285,176	
11:00	264,850	431,347	417.079	372,557	356,025	397.747	262,892	
12:00	247,880	463,743	453,023	363,425	383,307	414,668	240,381	
13:00	229,602	431,642	428,899	375,332	378,936	385,689	231,135	
14:00	226,743	396,246	394,549	358,168	355,768	350,373	225,965	
15:00	223,267	383,469	379,473	351,273	353,148	339,617	228,651	
16:00	238,828	353,184	359,094	333,584	301,161	310,861	235,793	
17:00	247,757	286,570	284,843	259,194	238,595	249,105	239,206	
18:00	239,197	269,652	252,182	235,761	210,570	236,261	244,078	
19:00	250,060	282,252	249,286	227,589	260,096	237,907	249,957	
20:00	278,981	295,159	284,167	265,191	274,068	249,524	255,084	
21:00	269,497	284,285	285,664	259,732	273,328	241,359	223,800	
22:00	244,440	235,485	239,127	211,057	230,677	212,465	247,235	
0123:00 Econo	mics <b>1:85,316</b> rese	erved.158,606	162,813	136,623	154,112	158,273	182,096	

39

ner:

### The Content Matrix Shows How Content Drives Yield

Page	First Pub Time	Page Views	% of Total Running S	Impressions	Ad Revenue	Avg Ad Re per Page
Gigantic tooth comes from ancient monster   The Columbus Dispatch	5/22/2016 5:00:00 AM	43,183	32.13%	154,259	\$2,111	\$0.049
Capitol Insider: Democrats oust party officials for voting in GOP primary   The Columbus Dispatch	5/22/2016 5:00:00 AM	27,344	52.47%	109,406	\$2,200	\$0.080
Little middle ground on Capitol Hill over Rep. Jim Jordan   The Columbus Dispatch	5/22/2016 11:00:00 AM	18,960	66.57%	77,862	\$1,134	\$0.060
Lawsuit uncovers Hocking County deputies' racist remarks   The Columbus Dispatch	5/22/2016 7:00:00 PM	4,147	69.66%	17,533	\$99	\$0.024
Grove City teen dies after Pleasant Township crash   The Columbus Dispatch	5/1/2016 8:00:00 AM	3,004	71.89%	11,490	\$247	\$0.082
Rob Portman, Ted Strickland locked in tight race for U.S. Senate, poll shows   The Columbus Dispatch	5/11/2016 10:00:00 AM	1,856	73.27%	7,349	\$160	\$0.086
Tight labor market turning table on many Central Ohio employers   The Columbus Dispatch	5/22/2016 10:00:00 AM	1,669	74.51%	5,292	\$16	\$0.010
Residents have high hopes for Columbus' new neighborhoods agency   The Columbus Dispatch	5/22/2016 6:00:00 AM	1,225	75.43%	4,674	\$70	\$0.058
Man dies after Perry County collision   The Columbus Dispatch	5/22/2016 6:00:00 AM	1,149	76.28%	4,278	\$59	\$0.052
Franklin County Jail lacks medications to ease withdrawal   The Columbus Dispatch	5/22/2016 6:00:00 AM	1,114	77.11%	4,513	\$76	\$0.069
Ohio's first female governor appointed to state Board of Education   The Columbus Dispatch	5/3/2016 8:00:00 PM	1,022	77.87%	4,307	\$81	\$0.079
Cameron Mitchell's Cap City to join Dublin's Bridge Park   The Columbus Dispatch	5/3/2016 5:00:00 PM	920	78.55%	3,213	\$7	\$0.007
Man accused of enticing girls in Grandview   The Columbus Dispatch	5/22/2016 8:00:00 PM	842	79.18%	3,351	\$23	\$0.028

### Digital Conversions are Tracked and Analyzed to Predict Conversion Probability and Identify Acquisition Strategy



Local visitors convert at a rate 2.5X greater than non-local visitors

• Local subscribers who see a product offer convert 1.3X higher than non-local visitors



Most conversions to paid subscriber occur on desktop devices

- Mobile conversion rate is half of desktop conversion
- Tablet conversion is about 2/3 of desktop conversion



Articles published at similar times have drastically different performance metrics when comparing volume and yield

- While the first article shows more volume, the total ad revenue is greater from the second article
- The yield per page is almost double for the second article with half as much volume
- Differences in yield and value are a result of targeting and the type of audience that views the article

Page	First Pub Time	Page Views	% of Total Running S	Impressions	Ad Revenue	Avg Ad Re per Page
Gigantic tooth comes from ancient monster   The Columbus Dispatch	5/22/2016 5:00:00 AM	43,183	32.13%	154,259	\$2,111	\$0.049
Capitol Insider: Democrats oust party officials for voting in GOP primary   The Columbus Dispatch	5/22/2016 5:00:00 AM	27,344	52.47%	109,406	\$2,200	\$0.080
		1			Ť	1
				t	math	er:

For a specific market, users who engaged in food content showed a high conversion rate

- Entertainment content showed the lowest conversion though it is a significant driver of anonymous visitors and ad revenue
- Local content showed the largest volume of conversions



The dynamic paywall sets the meter where advertising risk is minimized but conversions are maximized 46



Subscriber Value

# Query target list using engagement, life stage, affinity groups, and content interests

Select Metric						Chi Affinitygroup New	Engagement Group
(Multiple values)					*	(All) 🔻	(A/I) 🔻
Search SSOR ID Search Email						Chi Affinityaroun Old	
		@				Primary Content Area	
Jewel Subscriber List	:						(All) •
Bestemail	Userid	Apv	Impressions	Pageviews	-	Persona	
0susanknight0@gmail.com	0001-0447-1637	0		0		(All) *	
1alpha@sbcglobal.net	0001-0321-6216	0		0		Life Stage Group	
1bettyholmes@gmail.com	0001-0446-7478	10	21	11		(All)	1
1cwmeyer@gmail.com	0001-0447-9178	0		0		1 - 4	
1dabears@gmail.com	0001-0445-9929	4	9	4		Life Stage Name	
1hotmail@hotmail.com	0001-0443-4881	25	949	338		(All) T	]
1kfarchibum@gmail.com	0001-0446-8566	0		0		Social Group	
1LIFErWes@gmail.com	0001-0217-0765	0		0		(All) •	1
1rondye1@gmail.com	0001-0234-1263	0		0		Social Crown Name	
1scottsummers66@gmail.co.	. 0001-0221-4080	13	30	13		Social Group Name	
2cymmij@gmail.com	0001-0447-2647	9	18	9		(AII) *	
2mar@msn.com	0001-0113-5002	223	44	349		Prizmnedescriptionzip4	
2masonh@gmail.com	0001-0443-6322	66	818	172		(All) 🔻	]
2mitzid@comcast.net	0001-0444-3538	0		0			í literatura de la companya de
2spoons@sbcglobal.net	0001-0246-3844	0		0			
2srjose@gmail.com	0001-0442-9124	129	863	252			
2stephanieovalle@gmail.com	0001-0446-0296	4	59	9			
3beaglesrule@gmail.com	0001-0210-9842	2	203	39			
3eareese@gmail.com	0001-0432-2369	49	819	130			
3jermyns@msn.com	0001-0237-2807	0		0			
4cole1@comcast.net	0001-0421-3306	20	326	61			
4e4cfea4@opayq.com	0001-0448-7631	0		0			

mather:

47

# Final good ideas

### Strategy for 2017 and Beyond

- Holistic approach to circulation revenue
  - Emphasize and understand long term customer value
- Use two or three year **budget model** and price forecasting to help reach revenue goals and forecast different scenarios
  - Identify impact of pricing aggressiveness (pricing frequency and level of increases)
- Improve true long-term value, as measured by Customer Lifetime Value
  Score
  - Focus acquisition and retention efforts
  - Grow long-term value through upgrades and renewals



### Multi-year Budget Model

• Reporting and analysis for optimal

market offers

- Three-year budget model (forecasting subscriber retention and revenue) allows for a holistic view of overall sustainability and growth
  - Retention (base accounts)
  - Acquisition and reacquisition (new accounts)
  - Pricing (revenue growth via average rate)



### A few more good ideas

- Targeting former subscribers with focus offers
  - Filter out certain stop categories, ex: deceased
  - Offer a price close to what they paid last
- Fee Revenue
  - Acquisition fees \$5 per start
  - Paper bill fees \$9 per bill
- Digital vs. Print sales tax savings opportunity
- Targeted house ads for digital subscriptions
  - Use cookies to serve ads to certain subs prior to the meter

# Questions



© MATHER ECONOMICS