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# Untangling Attribution

Mark Fiske

VP Channel Marketing

Ancestry.com

The leading industry event by digital marketers for digital marketers

# About Ancestry

Ancestry is the world's largest online family history resource dedicated to helping everyone discover, preserve and share their family history

- Founded in 1983, site launched in 1996
- Dozen brands in the Ancestry family
- 1,400 employees
- >2MM paying subscribers
- >16 Billion records
- Diversified online and offline channel mix
- >\$100MM annual marketing & advertising expense
- Top 15 eCommerce TV Advertiser (Simmons)

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# High Level: Marketing Attribution

**The process of assigning credit from a goal or outcome to the marketing touchpoints that drove that outcome**

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# High Level: Attribution *Model*

**The rule or set of rules that determines how that credit is assigned**

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# Going in...

***Wow we can talk about...***

*Approach to modeling of half-life covering carry-forward in model*

*Managing correlated variables*

*Training and validation of regression-based models*

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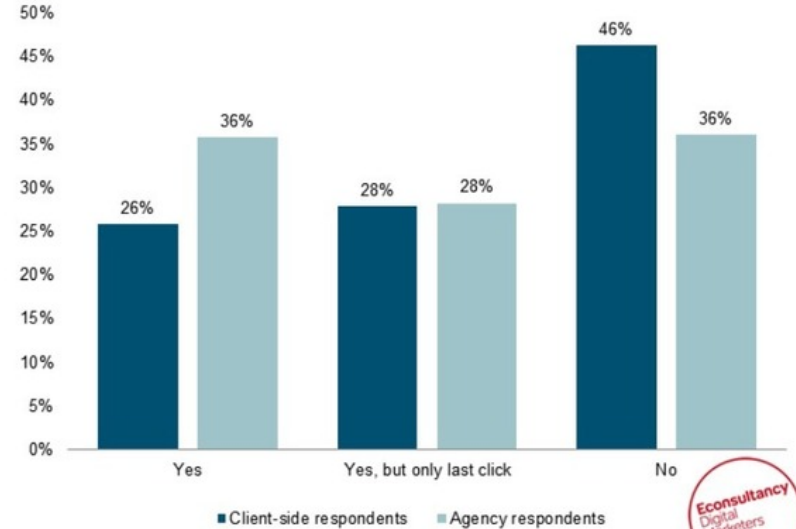


# Reality check

- Almost half of marketers don't use any type of attribution model
- Of the 54% who do, most last-click only
  - First-click approach is #2
- *“We have a robust model, but don't use it to make day-to-day decisions. The model is for the execs”*
  - Fortune 500 retailer

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Figure 1: Do you (or your clients) typically carry out any type of marketing attribution?



Adobe Quarterly Digital Intelligence Briefing

Econsultancy  
Digital  
Marketers  
United™



# Key Points

- Most marketers are still in nascent stages of marketing attribution
- It's easy to implement a vendor or process without practical applications
- A simple framework can aid marketers in ensuring they (not just the boardroom) gets use out of attribution models

## TODAY:

- Everyone leaves with an attribution approach
- And understanding as to how one might 'operationalize'

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# Managing Expectations: Attribution Models

- Mean different things to different people
- Require significant investment
- Can be subjective
- Are wrong
- Will change

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# So Why Bother?

- Everyone started somewhere
- Over time iterative improvement yields confidence
- Enables cross-channel investment decisions
- For many, sum of channels > whole

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# “Good Enough” Approach

*If doing nothing or last click only,  
you can do this today*

- Applicable to most web analytics suites
- Compare first click report with last click
- Useful as diagnostic tool
- Indicator as to extent of overlap  
*(and therefore attribution opportunity)*

Channel	First Units	Last Units	First/Last Units
Channel 1	70,542	41,388	1.70
Channel 2	30,313	34,075	0.89
Channel 3	12,460	4,693	2.66
Channel 4	5,250	3,795	1.38
Channel 5	16,612	11,734	1.42
Channel 6	32,418	33,095	0.98
Channel 7	4,128	5,217	0.79
Channel 8	4,469	19,985	0.22
Channel 9	10,668	24,100	0.44
Channel 10	4,599	10,428	0.44
Channel 11	1,787	1,976	0.90
Channel 12	2,336	4,724	0.49
Channel 13	386	562	0.69
Channel 14	39	0	0.00
Channel 15	94	338	0.28
Channel 16	20	11	1.82
<b>TOTAL</b>	<b>196,121</b>	<b>196,121</b>	<b>1</b>



# Three Key Considerations

- What problem am I trying to solve?
- Build (or hack) vs. Buy
- Online only, or is offline needed?

# Our Story: One Way

- Ancestry chose to build
- Many tremendous out of the box tools that are rapidly evolving
- Understand your needs
- Playing favorites...



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# Before you start

- Organizational buy-in
- Define needs
- Build vs. buy
- Planning & Resourcing
- Budgeting
- ETL Prep
- End to end alignment

Task to be carried out in the Week	Week 1 (July 12 2012)	Week 2 (July 19 2012)	Week 3 (July 26 2012)	Week 4 (Aug 2 2012)	Week 5 (Aug 9 2012)	Week 6 (Aug 16 2012)	Week 7 (Aug 23 2012)	Week 8 (Aug 30 2012)	Week 9 (Sep 06 2012)
Approach for Modeling	Blue								
Modeling (US)		Blue	Yellow						
Data Review (UK)			Yellow						
Modeling (UK)				Blue	Blue				
Data Review (CA)					Blue				
Modeling (CA)						Blue	Blue		
Data Review (AU)					Blue				
Modeling (AU)						Blue	Blue		
Presentation Building								Blue	Blue
Starting on Reconciliation Project									Blue

# The Long Leg: Data feeds, quality

- Third-party data consolidated, warehoused regardless of approach
- Ancestry has dozens of data sources (and growing)
- Complete project in advance of attribution model planning
- Benefits far outside attribution modeling

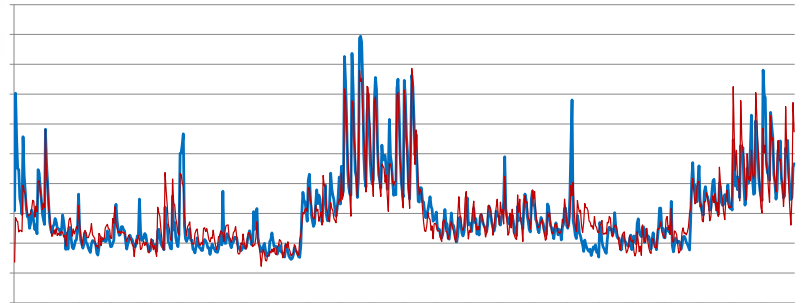
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# Building an in-house model

- Considerations while building in-house regression-based model:
  - How much data can be used in ‘training’ model
  - Can regression be ‘constrained’ by reality
  - How to handle correlated variables
  - How to estimate ‘half life’ of carry forward effect
  - How to validate ‘training data’ predictive

Model Prediction vs. Actual



# Great, I have an attribution model!

## How do we use this thing?

- Many companies **DON'T!**
- *Critical* to tie to day-to-day operations, understand how model will be used in ongoing operations
- One of biggest disconnects in organizations is in applying the model to day to day operations

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# Step One: Calculate Attribution 'Multiplier'

Operational Orders	Attributed Orders	Attribution Multiplier
96,162	68,197	0.71
4,170	2,275	0.55
11,106	5,939	0.53
8,282	6,902	0.83
13,833	5,716	0.41
28,298	15,471	0.55
32,423	19,448	0.60
2,715	3,824	1.41
4,756	6,699	1.41
27,706	27,706	1.00
2,852	4,753	1.67
16,347	29,191	1.79
<b>248,650</b>	<b>196,121</b>	

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# Step Two: Revise Channel CPA Targets



**SEM**

Channel  
Reported  
1,000

Att. Model  
Reported  
780

Att. Model  
'Multiplier'  
.78

Std.  
CPA  
\$10

New  
Channel CPA  
\$7.80



**DISPLAY**

1,000

240

.24

\$10

\$2.40



**SEO**



**CONTENT**

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# Step 3: Revise Total Business Reporting

	Operational Orders	Attribution Multiplier	Attributed Orders	Revised Attributed Orders
Channel 1	96,162	0.71	68,197	70,547
Channel 2	4,170	0.55	2,275	2,354
Channel 3	11,106	0.53	5,939	6,144
Channel 4	8,282	0.83	6,902	7,139
Channel 5	13,833	0.41	5,716	5,913
Channel 6	28,298	0.55	15,471	16,004
Channel 7	32,423	0.60	19,448	20,118
Channel 8	2,715	1.41	3,824	3,956
Channel 10	4,756	1.41	6,699	6,929
Channel 11	27,706	1.00	27,706	28,660
Channel 12	2,852	1.67	4,753	4,917
Channel 13	16,347	1.79	29,191	30,197
<b>TOTAL</b>	<b>248,650</b>		<b>196,121</b>	

Adjusted For Actual Business

Total Business Orders: 202,878  
3.3% Delta

Accuracy Indicator

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# Iterate As Needed



Attribution Model Run  
on Historical Data



'Multiplier'  
calculated vs.  
partner pixel data



Revised CPA  
targets provided  
to channel managers



Operational reports  
compared to  
total business monthly



No

+/- 5% ?

Yes



Done



# Practical Takeaways

- Attribution models mean many different things
- Consider data sources, change management
- It's incredibly easy to implement a useless model
- Focus on how to apply model outputs to day to day business operations