Demystifying value

The importance of lifetime value

Sarah N / November 5

What is Customer Lifetime Value?

A long-term prediction of the future value of your customers' interactions

- It is **not a historical average**

- It is a long-term oriented **prediction**

- It is valued at the **individual** level

- It is impactful across the entire **value chain**

Google

LTV Level 1: This is the most basic output of LTV

The most basic output is a prediction of the future revenue you will get from your current customers.

	One Year Expected Value	Total Future Customer Value	Percent of Total Equity
1	$140.00	$80,000,000	80%
2	$30.25	$10,000,000	10%
3	$18.00	$5,000,000	5%
4	$14.75	$3,000,000	3%
5	$10.00	$2,000,000	2%
Total	$81.86	$100,000,000	100%

Google

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3	$18.00	$5,000,000	5%	50%
4	$14.75	$3,000,000	3%	50%
5	$10.00	$2,000,000	2%	80%
Total	$81.86	$100,000,000	100%	50%

Google

LTV Level 2: Looking at LTV by Acquisition Channel

Most people stop here, but you can go a lot further.

Acquisition Channel	One Year Expected Value	Total Future Customer Value	Percent of Total Equity
UAC	$150.00	$80,000,000	80%
Social	$130.25	$10,000,000	10%
Organic	$18.00	$5,000,000	5%
Channel 4	$24.75	$3,000,000	3%
Channel 5	$12.00	$2,000,000	2%
Total	$81.86	$100,000,000	100%

Google

LTV Level 2: Looking at LTV by Acquisition Channel

Learn your most valuable devices

Device	One Year Expected Value	Total Future Customer Value	Percent of Total Equity
App	$150.00	$40,000,000	40%
Mobile	$130.25	$30,000,000	30%
Desktop	$100.00	$2,000,000	20%
Total	$81.86	$100,000,000	100%

Google

LTV Level 3: Segmenting customers differently, looking for additional insights

This chart below looks at what brought in the top 20% of customers.

First Product Category Purchased	One Year Expected Value	Total Future Customer Value	Percent of Total Equity
Romantic Comedy Lovers	$150.00	$51,000,000	64%
Horror Film Lovers	$77.99	$18,000,000	22.5%
Action Lovers	$52.10	$6,000,000	7.5%
Drama Lovers	$19.72	$4,000,000	5%
Other	$12.00	$4,000,000	5%
Total	$140.00	$80,000,000	100%

Google

LTV Level 3: Segmenting customers differently, looking for additional insights

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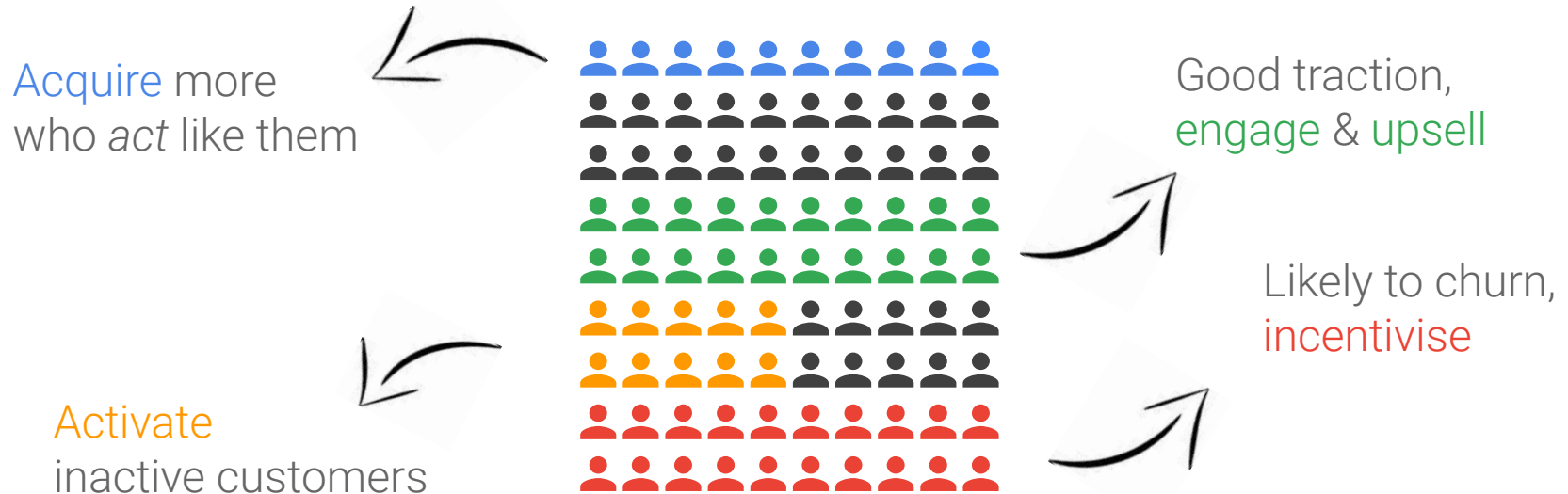| First Product Category Purchased	One Year Expected Value	Total Future Customer Value	Percent of Total Equity	Chance of Churn
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Other	$12.00	$4,000,000	5%	10%
Total	$140.00	$80,000,000	100%	20%

Google

LTV Level 3: Segmenting customers differently, looking for additional insights

This answers what product types brought your best customers coming back.

Most often category purchased	One Year Expected Value	Total Future Customer Value	Percent of Total Equity
Romantic Comedy Lovers	**$250.00**	**$31,000,000**	**39%**
Action Lovers	$65.73	$29,000,000	36%
Drama Lovers	$51.10	$11,000,000	14%
Other	$18.40	$5,000,000	6%
Horror Film Lovers	**$10.00**	**$4,000,000**	**5%**
Total	$140.00	$80,000,000	100%

Google

Understanding LTV allows you to segment your customer base, and tailor your approach.

Acquire more who *act* like them

Activate inactive customers

Good traction, engage & upsell

Likely to churn, incentivise

Tools for LTV Modeling

BTYD

Use recency/frequency/value models to extrapolate lifetime value in non-contractual setting.

lifetimes

Survival Analysis

Use predictors to determine probability at time *t* of user's subscription being "alive".

lifelines

Feature Selection

Determine the most important in-app actions that correlate with lifetime value.

scikit-learn

Google

What data is needed for pLTV

Unique identifier

Install Date

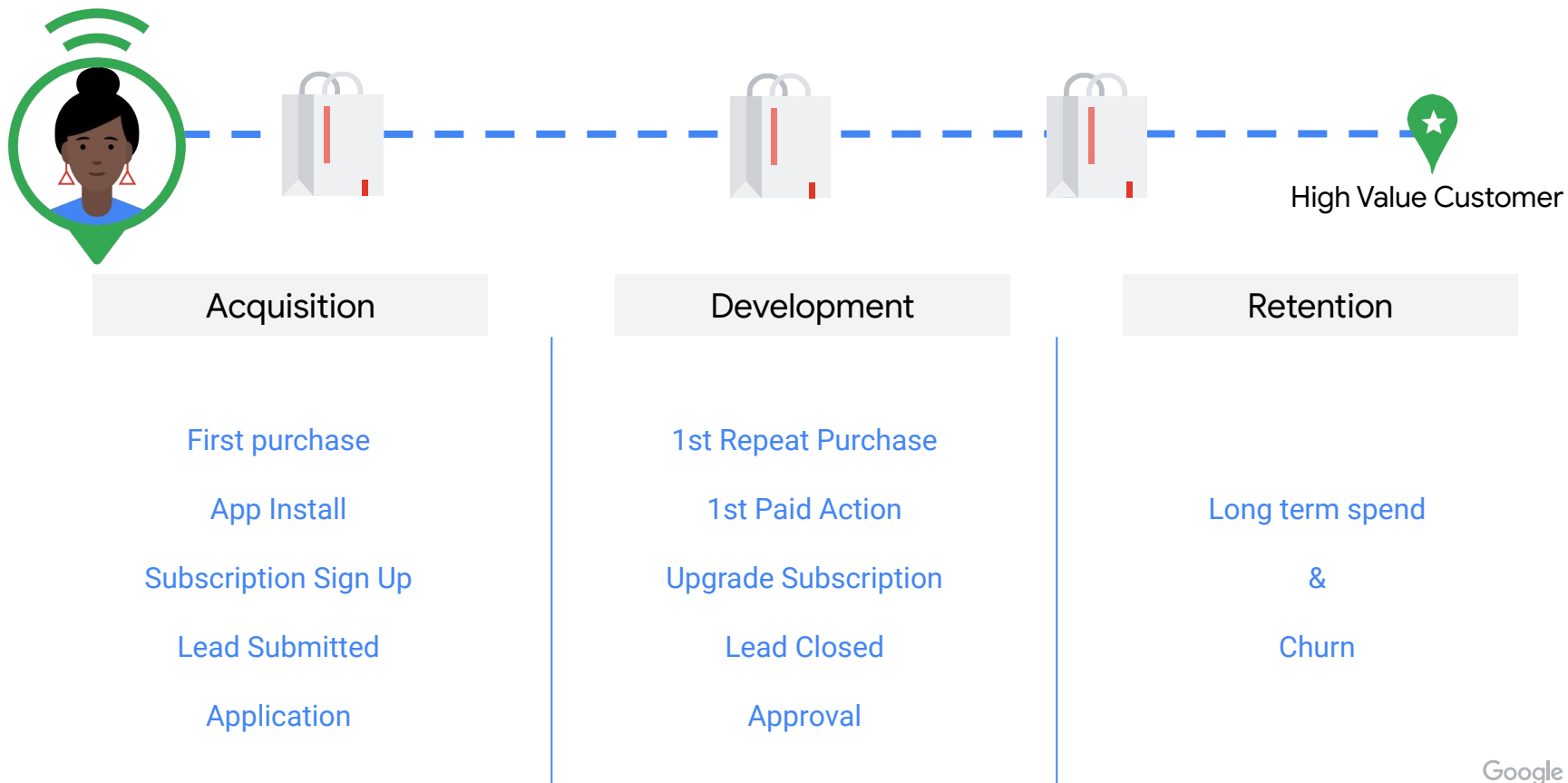Date of transaction

Transaction value

Why is the work worth it?

- *Better decide who to target and who to exclude from targeting*

- *Refine product/service offering to highest value*

- *Determine most efficient way to drive customer loyalty*

- *Waste fewer marketing dollars*

+ *it's not as hard as it used to be*

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There are many inputs to a good CLV model

High Value Customer

Acquisition	Development	Retention
First purchase	1st Repeat Purchase	
App Install	1st Paid Action	Long term spend
Subscription Sign Up	Upgrade Subscription	&
Lead Submitted	Lead Closed	Churn
Application	Approval	

Google

There are many inputs to a good CLV model

Acquisition	Development	Retention
ad solutions predict these inputs	1st Repeat Purchase	Long term spend
	1st Paid Action	&
	Upgrade Subscription	Churn
	Lead Closed	
	Approval	

High Value Customer

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There are many inputs to a good CLV model

High Value Customer

Acquisition	Development	Retention
First purchase	digital behavior & pre-fab ML analysis helps predict this	transactional behavior helps predict this
App Install		
Subscription Sign Up		
Lead Submitted		
Application		

Google

There are many inputs to a good CLV model

High Value Customer

Acquisition	Development	Retention

Acquisition

First purchase

App Install

Subscription Sign Up

Lead Submitted

Application

Machine Learning Solutions:

- Clustering

- Regression

- Random Forest

- Deep Neural Net

Probabilistic Models:

- Pareto/NBD

- BG/NBD

- BG/BB

- Survival Curves

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Where do you go from here?

Today	Tomorrow	Next Year

Identify your objectives, aligned to business strategy

Investigate how customer data is stored, labeled, and formatted

Begin exploring predictions to customer behavior using pre-fab models (building from scratch only if needed)

Utilize tools and partnerships to push toward automation and new insights

Evaluate customer response to strategy

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Top ways to action off of LTV

1. Bidding (UAC for Value)

2. Re-engagement

3. Feature Selection

4. Acquire customers similar to your best customers, raising the average LTV of your whole entire customer base!

appendix

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