Leontinus Alpha Edison
Co-Founder & COO tokopedia.com

I am the technical co-founder & COO of Tokopedia, an open marketplace that provides people in Indonesia an opportunity to build and grow their online business easily, while also providing better online shopping experience.

Prior to Tokopedia, I has various experience in software development on different kind of industries, including ISP, Insurance, Airlines and several government projects.

Now, in Tokopedia, I am focusing on mixture of technical, operation and people management. I also care about security on all aspect.

2016 杭州·云栖大会
THE COMPUTING CONFERENCE

飞天·进化
APSARA EVOLUTION

tokopo 云栖社区
yq.aliyun.com

Big Data is like teenage sex: everyone talks about it, nobody really knows how to do it, everyone thinks everyone else is doing it, so everyone claims they are doing it.

— Dan Ariely —

AZ QUOTES

扫码观看大会视频

TVC Optimization

What did we do?

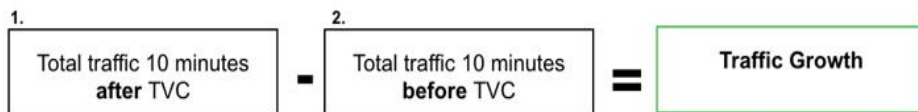We found that people tends to play with their phone while watching TV.

IF we can captured number of people who visits our site, after watching our TVC. Means, our TVC works on that niche of people in that particular program.
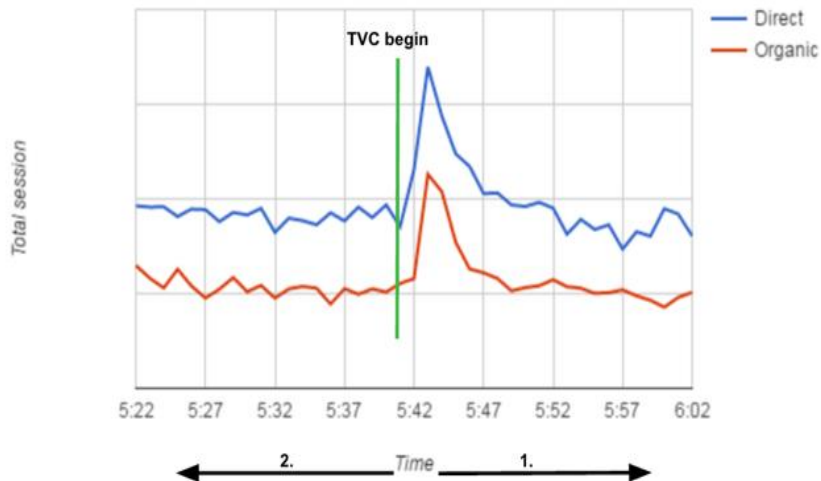
How?
1. Filter traffic only from Direct and Organic.
2. Filter traffic only from Mobile, WAP, Android and iOS.
3. Use Google Trend (to analyse search terms).

Calculation Method:

| 1. Total traffic 10 minutes **after** TVC | − | 2. Total traffic 10 minutes **before** TVC | = | **Traffic Growth** |

Direct and Organic Combine

— Direct
— Organic

TVC begin

Total session

5:22 5:27 5:32 5:37 5:42 5:47 5:52 5:57 6:02

2. ← Time → 1.

Calculation Method:

		1-Jun-	2-Jun-	3-Jun-	5-Jun-	6-Jun-	7-Jun-	8-Jun-	9-Jun-	10-Jun-	11-Jun-	12-Jun-	13-Jun-	14-Jun-	15-Jun-	16-Jun-	17-Jun-
NET | BREAK OUT	15-18	269	-26	191													
NET | BUKAN SEKEDAR WAYANG	12-15																
NET | CELEBRITY LIPSYNC(R)	9-12	210	119	-460		138	-326	318	381	414			273	332	196	-140	560
NET | ENTERTAINMENT E	9-12	-184	534	-459		-274	-1,824	263	-343	-994			373	686	-167	-210	138
NET | INDONESIA MORNING SHOW	6-9	810	563	121		750	87	797	427	553			365	717	654	242	-172
NET | INI SAHUR	24-4					798	470		1,043				380	62	236	-217	-127
	4-6																
NET | KELAS INTERNASIONAL SEASON 2	18-22	102	-18,800	117		-1,086	-817	492	595	633			-202	-91	1,605	-299	864
NET | NET.10	9-12												-202	259	464	62	347
NET | NET.12	12-15												1,197	-518	931	298	132
NET | PAGI PAGI	6-9	397	403	732		889	1,009	559	1,045	921			558	893	832	921	905
NET | SARAH SECHAN	12-15	-163															
NET | TETANGGA MASA GITU?	18-22																
NET | TETANGGA MASA GITU? SEASON 3	18-22	-12	121	-186		920	2,464	3,094	2,239	1,976			1,651	1,562	1,898	1,308	1,397
NET | TETANGGA MASA GITU? SEASON 3(R	9-12					1,166	345	244	780	-16			646	622	639	-139	15

BAD

GOOD

With the same budget	**We've achieved:**	↑ **50%** number of spot	↑ **30%** number of TVR

Other metrics that we try to optimise:

- Duration selection : 15 sec vs 30 sec. 15s cost **40% less** than 30s and drive the same amount of traffic. However, it will affect our brand. We tend to use 30 sec duration for 3-5 days after launching.
- **15%** from total spot on **Primetime** (18:00 - 20:00). It is better to use less frequency on primetime. Even though PT program drive lots of traffic compared to non-PT, the cost on PT tends to be a lot higher. Making it not efficient enough.
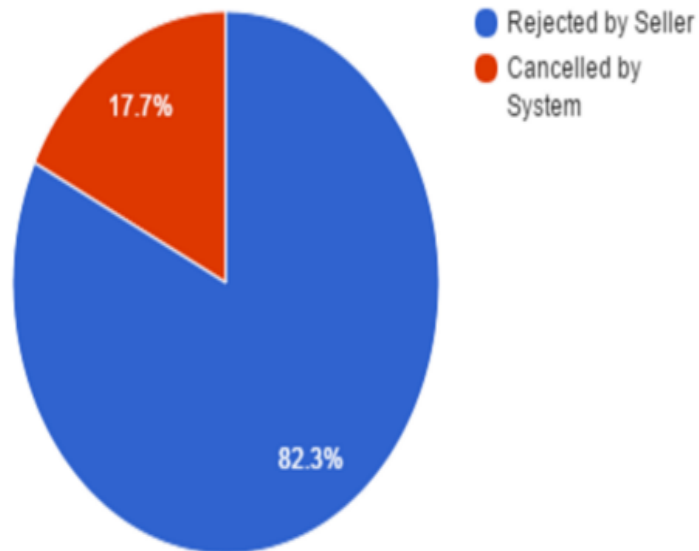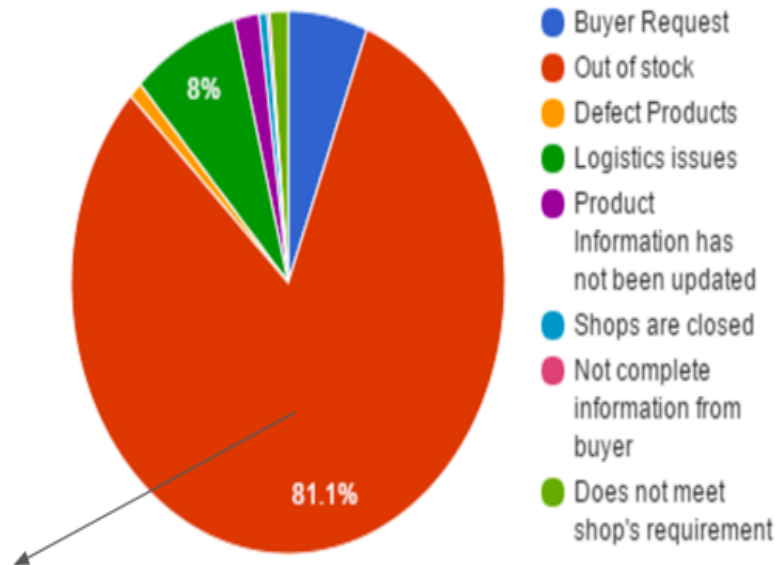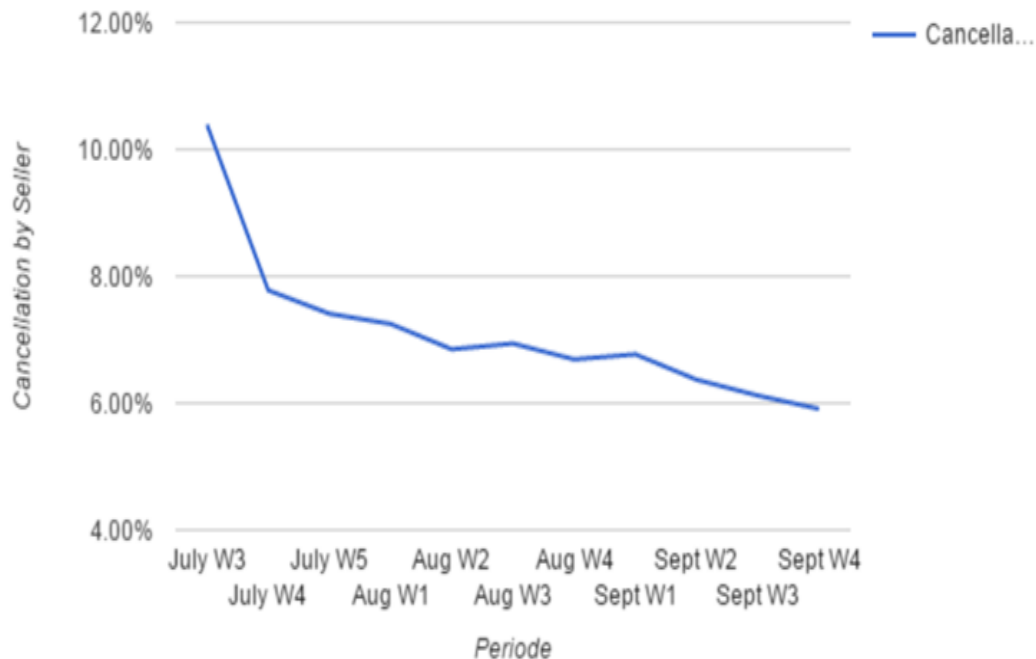
Cancellation Rate

1. Automated closing the shops which are not log in in 7 days

2. Making close shop schedule so sellers can set the time period when they want to close their shops due to holiday or other personal reasons

3. Making Seller of the Week Program. We gave some appreciation to seller who gave the best performance on certain week. The criteria is based on the shop's success rate, its speed, and also shop reviews by buyers.

Nilai Kualitas Produk — Nilai Akurasi Produk

Kualitas Produk
4.8
★★★★★
984 total

5 ★ ▬ 852
4 ★ ▬ 110
3 ★ ▮ 17
2 ★ ▮ 1
1 ★ ▮ 4

Statistik Kepuasan Toko Terbaru ⓘ

Kepuasan	1 Bulan	6 Bulan	12 Bulan
Positif	258	1.299	1.406
Netral	8	24	24
Negatif	2	10	10

Statistik Transaksi ⓘ — Rata-rata Kecepatan ⓘ

95.4% **Transaksi Sukses** Dari 283 Transaksi

1 Bulan | 3 Bulan | 12 Bulan

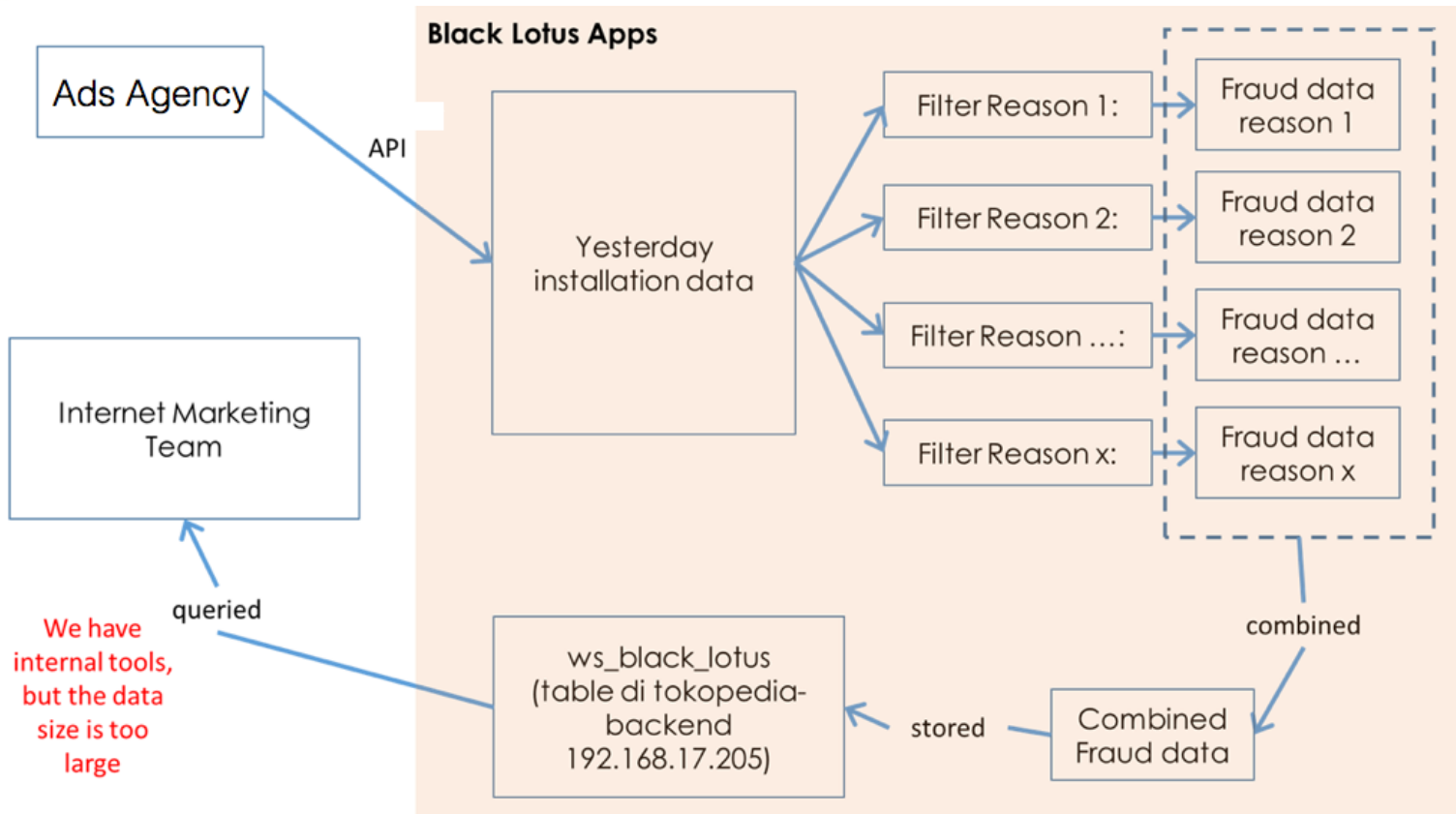Cancellation by Seller vs. Periode

Cancellation rate is showing decreasing trends on each week. Currently stable at 6%, decreased by almost 50% compared to before we done some improvements on it.

Fraud Install Detector

The Variables

In order to detect fraud installs, we used several variables which are:

1. Reason 1 =>'Invalid IMEI', Reason 2 => 'Duplicate IMEI', IMEI duplicated in the last 30 days

2. Reason 3 => 'Invalid Android ID',

3. Reason 4 => 'Duplicate Android ID'

4. Reason 5 => 'Emulator',

5. Reason 6 => 'Invalid App. Version',

6. Reason 7 => 'Non Indonesian Operator'

7. Reason 8 => 'Outside Indonesia'

8. Reason 9 => 'Duplicate Advertising ID

Result

After socializing this method to all our ad network partners, we have saved this amount of money (we are not paying for fraud installs):

Partner	Saved Amount
A	$ 25,000
B	$ 9,000
C	$ 4,000

Machine Learning @Tokopedia

Fighting transactional fraud at Tokopedia

Fraudulent transactions are handled **MANUALLY** using a backend system

Only using **Rule Engine** and later on we counting on **MANUAL INSPECTION**

However, number of cases overwhelms fraud team, it leaves a lot of unhandled cases.
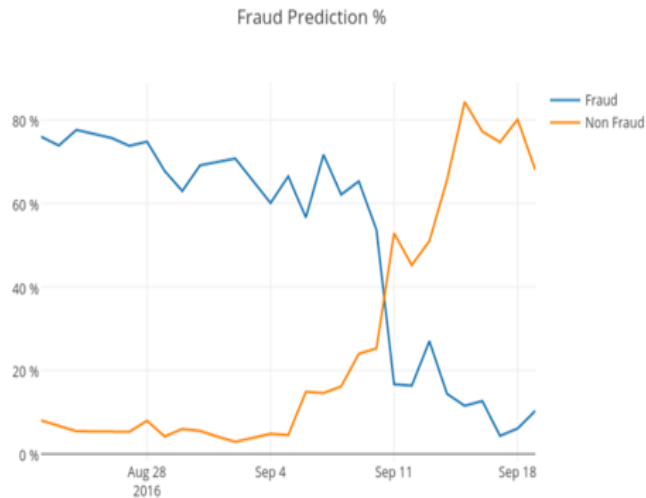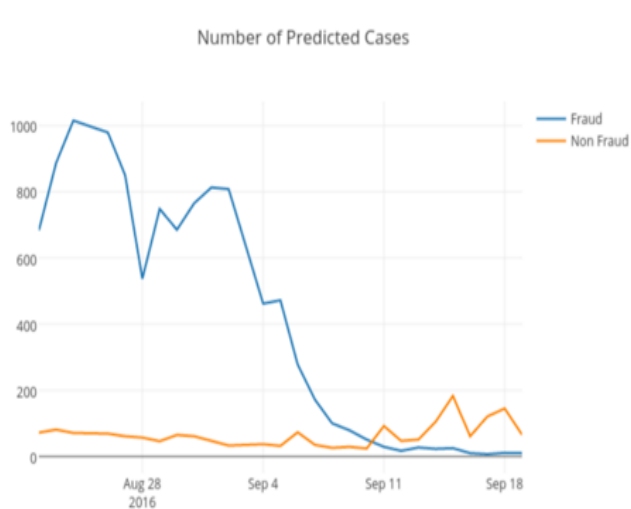
Solutions?

Using **machine learning** to discover fraudulent pattern rather than manually checking similar cases over and over again.

We use machine learning model alongside the existing rule engine.

.. result

These graphs display data from 22 Aug' 2016 to 19 Sep' 2016. The fraud cases captured are **high** late august until early september because Tokopedia is holding a **free shipment promo**. During this period, **16000 cases in total** were captured and our machine learning model got **78% accuracy** and **6% error rate**.

Transaction are not the only place for fraud

What about MESSAGING?

challenges..

- Most of the time fraudster will post messages that is claiming their victims as swindler, this psychologically will make the victim curious or angry about the claim, and open the link that is given to them, for example:

"sorry gan,kok toko agan masuk berita
penipuan ?
saya liat disini
www*tokped*pe*hu
ubah bintang jadi titik,soalnya gk bisa
share link di sini
thanks"

"sorry sir, why does your shop got listed
in this fraudster list announcement?
I saw it here
www*tokped*pe*hu
substitute stars to dots,because we
can't share link here
thanks"

more examples..

"BE CAREFUL

TOKOPEDIA IS TAKING ITS SELLER'S SALDO
WITHOUT YOU KNOWING IT.
I AM THE VICTIM,
I SENT COMPLAIN AND TOKOPEDIA CAN
NOT DENY IT.
HERE IS THE CHRONOLOGY ON HOW I MAKE
CHAOS IN TOKOPEDIA'S OFFICE

CHECK IT OUT HERE

www*tokped*pe*hu
substitute stars with dots, tokped blocked
my news ,they might be embarrassed !
wkakwka<laughing intensively>"

"An info for tokopedia's member
Just for today's transaction in tokopedia, you can get
bonus pulsa in tokopedia
Here is the steps, click the web link given bellow,
and put your login email that you use to login to
tokopedia, then follows the next steps in the web

http://pulsaalloperator.890m.com/index.php"