

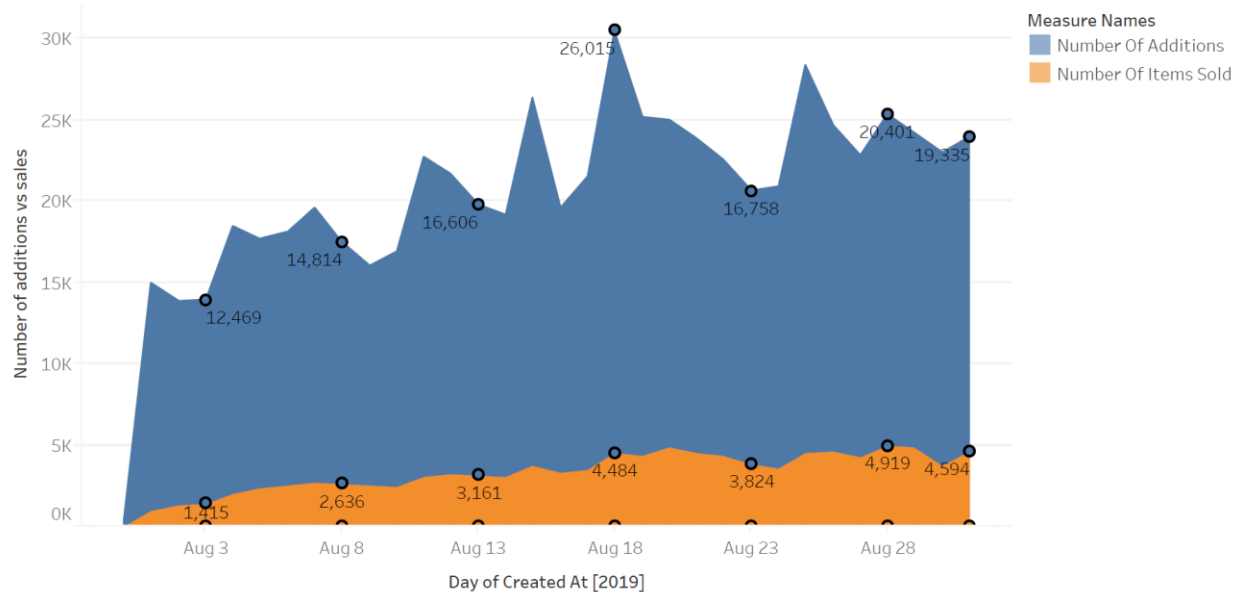


August 2019 Report

Syman Hossenbux

Introduction

During the month of August, Vinted saw an increase in the number of daily listings/uploads, peaking at 26,015 new listed items on the 18th of August. The number of items sold steadily increased during the first half of August, but remained stable between the 18th and the 31st.

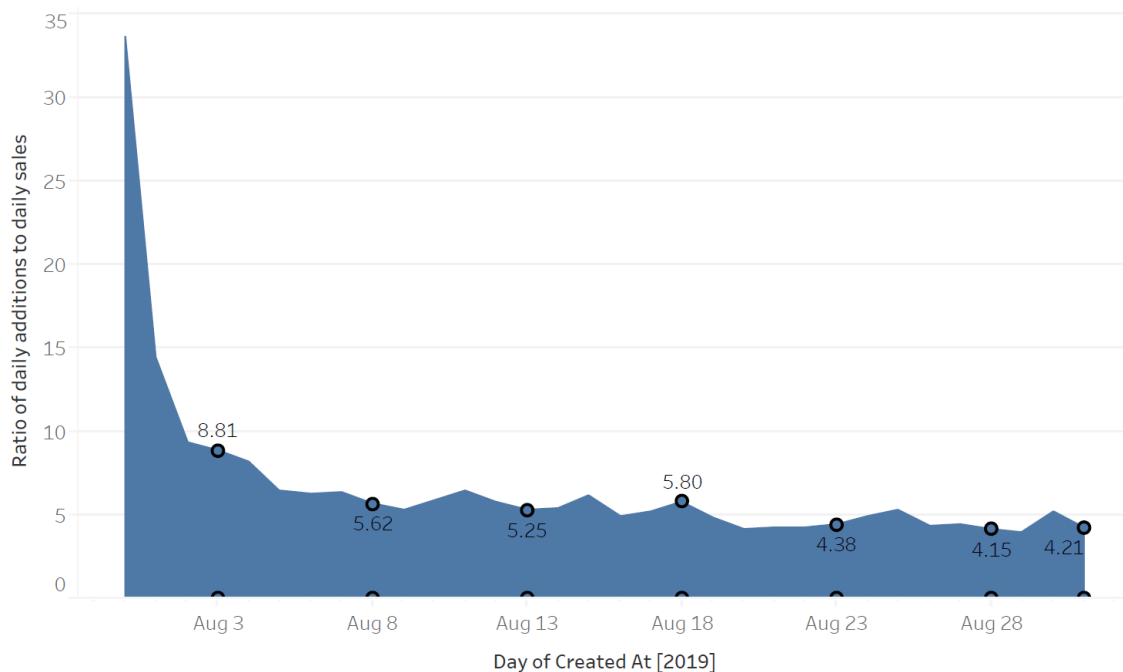


The plots of Number Of Additions and Number Of Items Sold for Created At Day. Color shows details about Number Of Additions and Number Of Items Sold.

Fig. 1

The dynamic between our sellers and the buyers can be further investigated by considering the ratio between daily new listings and sales. In fact, the latter highlights the platform's ability to renew the inventory in the short run. While a high ratio of additions to sales may indicate a low participation from buyers, on the contrary, a relatively low ratio could indicate lack of confidence from potential sellers. Thus, maintaining an adequate ratio is primordial for the health of the platform.

In Fig 2, we denote that the ratio of daily acquisitions to daily sales decreases throughout the month before settling at approximately 4.2: 1.



The plot of $\text{SUM}([\text{Number Of Additions}]) / \text{SUM}([\text{Number Of Items Sold}])$ for Created At Day.

Fig 2.

Liquidity (sellers perspective)

While monitoring daily activities can provide some insights regarding the interactions between sellers and buyers, a more in-depth study is required to understand the performance of the platform.

As a marketplace, Vinted strives to connect sellers and buyers in the most efficient way possible not only to maintain a healthy circulation of goods, but also to improve overall seller and customer satisfaction. One way to ensure this is to monitor the liquidity of the platform.

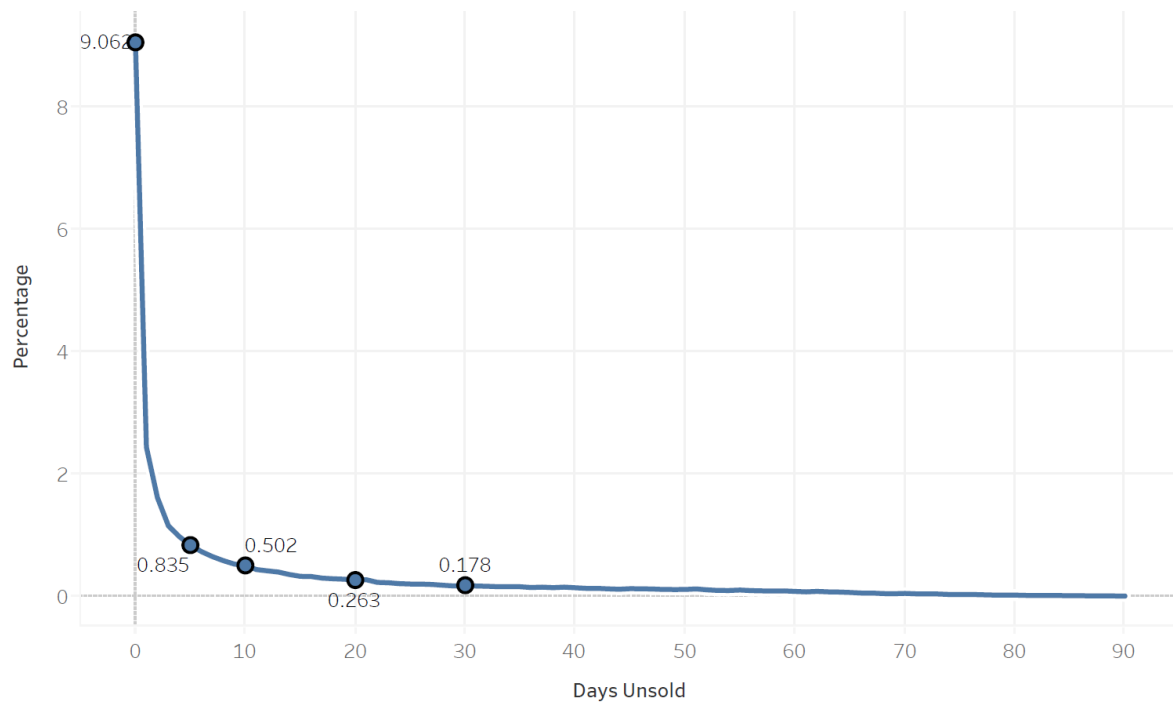
We define liquidity as the percentage of items sold during a certain period on the platform or alternatively, in this report, as the number of days an item remains on the platform before sale.

We chose this metric as it provides us with insights on the sellers' performance and ultimately, their satisfaction level.

There are multiple benefits in reducing the amount of time to match a buyer and a seller:

1. Sellers that conclude a sale in a reasonable amount of time are incentivised to list more items
2. Sellers with a positive experience and who feel confident in their ability to sell on Vinted may refrain from listing products on competition marketplaces
3. Rapid sales may have a cascading effect where customers react faster to secure a purchase
4. Satisfied sellers are more likely to purchase on Vinted

As shown in Fig 3, 9 percent of all new listings during the month of August were sold in less than a day and 0.263 percent of all new listings remained on the platform for 20 days before being sold. The shape of the curve indicates that the data is heavily skewed to the right.



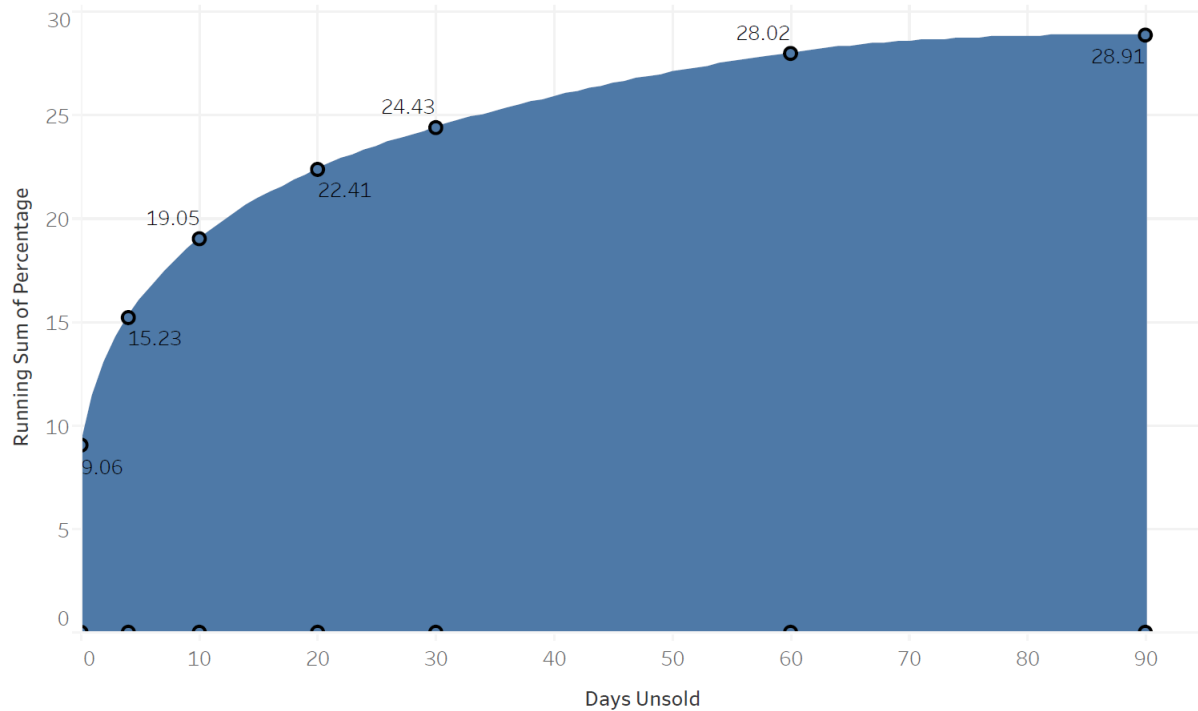
The trend of sum of Percentage for Days Unsold. The data is filtered on Days Unsold, which excludes Null.

Fig 3.

Fig 4 offers a more intuitive illustration of the metric.

19.05 percent of all new items during the month of August were sold after remaining on the platform for a period of 10 days. Ultimately, 29 percent of all items were sold within a period of 90 days on the platform.

We note that 70 percent of all items remained unsold during the observed period.



The plot of Running Sum of Percentage for Days Unsold. The data is filtered on Days Unsold, which excludes Null.

Fig 4.

Metric

In order to improve our metrics, we investigate the main contributing factors by means of descriptive statistics. Detailed results of our findings can be found in the 'Report_python.xlsx' attached to this report or in the appendix.

Country_code

The users' country was one of the main factors affecting our metric. The median number of days an item remained unsold was 6 days in Spain as compared to 4 days in both France and Belgium. Our model confirmed the results, whereby France and Spain were associated with a lower count of days_unsold.

This issue may be tackled by further incentivising customers based in Spain through targeted advertising, sales coupons or dedicating more resources towards brand verification.

Brand_is_verified

Both our model and statistical analyses showed that brand verification instilled confidence in the buyer and expedited the selling process. The difference in median was roughly 1 day.

Introducing the concept of 'verified seller' could potentially induce more customer confidence.

Listing platform

The data showed that sellers listing items through the Iphone interface successfully completed their sales in a shorter period.

This may be due to several factors ranging from the ability to post high-resolution photos from a handheld device to differences between the Vinted app interface on Android and Iphone.

Status

Buyers responded more favourably to items marked "New with tags" and "mint". Sellers should be encouraged to post items that belong to these categories.

Further considerations - Methodology

Testing a more appropriate model to quantify the impacts of the factors identified should be one of the next steps.

For instance, a zero inflated poisson model is more appropriate for datasets with categorical independent variables and a high frequency of 0's in the dependent variable.

Appendix

		days_unsold			
		mean	median	std	var
country_code	BE	13.51678	4	18.5987	345.9115
	ES	14.53566	6	19.1588	367.0595
	FR	12.31518	4	17.77879	316.0853
listing_quality_string	Long description	10.59864	3	16.00939	256.3007
	Long description, More than 2 photos	14.79232	6	19.17978	367.8639
	More than 2 photos	13.45784	4	18.52448	343.1565
listings_in_first_7days_detailed	a. Didn't list over first 7d	12.46503	4	17.95524	322.3905
	b. 1 listing	11.89829	3	17.30555	299.482
	c. 2-5 listings	12.12653	4	17.70337	313.4094
	d. 6-10 listings	12.69059	4	17.92163	321.185
	e. 11-20 listings	12.43076	4	17.92989	321.4808
	f. 21-50 listings	12.70055	4	17.84315	318.3779
	g. 51-100 listings	12.26118	4	17.78363	316.2576
	h. 101-500 listings	14.38033	6	18.70923	350.0354
	i. 500+ listings	3.223881	0	8.80224	77.47942
brand_is_verified	FALSE	13.22582	4	18.41534	339.1248
	TRUE	12.17159	3	17.66922	312.2012
listing_platform	android	12.90117	4	18.16771	330.0658
	iphone	11.92768	3	17.52121	306.9928
	web (desktop or other)	13.42976	5	18.46447	340.9365
status	a. New with tags	11.62795	3	17.262	297.9766
	b. New	12.65608	4	17.982	323.3523
	c. Mint	12.49032	4	17.93886	321.8025
	d. Very good	12.72759	4	17.99293	323.7456
	e. Good	13.04225	4	18.18207	330.5875

Statistical analysis - main factors

	coef	std err	t	P> t	[0.025	0.975]
Intercept	13.2224	0.359	36.873	0	12.52	13.925
C(country_code)[T.ES]	1.4188	0.45	3.152	0.002	0.536	2.301
C(country_code)[T.FR]	-1.9324	0.24	-8.04	0	-2.403	-1.461
C(listing_platform)[T.iphone]	-1.2731	0.128	-9.968	0	-1.523	-1.023
C(listing_platform)[T.web (desktop or other)]	0.5446	0.247	2.206	0.027	0.061	1.029
C(brand_is_verified)[T.True]	-1.9159	0.144	-13.337	0	-2.197	-1.634
catalog_code_1[T.MENS]	0.5329	0.208	2.557	0.011	0.124	0.941
catalog_code_1[T.WOMEN_ROOT]	1.2223	0.138	8.879	0	0.953	1.492
C(listing_quality_string)[T.Long description, More than 2 photos]	4.1502	0.2	20.787	0	3.759	4.542
C(listing_quality_string)[T.More than 2 photos]	2.9985	0.183	16.365	0	2.639	3.358
C(status)[T.b. New]	0.7138	0.227	3.147	0.002	0.269	1.158
C(status)[T.c. Mint]	0.3859	0.196	1.969	0.049	0.002	0.77
C(status)[T.d. Very good]	0.7679	0.237	3.235	0.001	0.303	1.233
C(status)[T.e. Good]	0.7907	0.478	1.653	0.098	-0.147	1.728
window_items_sold	-0.0068	0.001	-6.846	0	-0.009	-0.005
listing_price_eur_fixed	0.0037	0.001	2.845	0.004	0.001	0.006

Regression Result (OLS – Categorical data)