

Product Analysis (2019.1.1 – 2019.4.1)

Data-Driven Discovery
Improvement & Suggestions

Presented by

*Presented to
Product Team, Apartment List*

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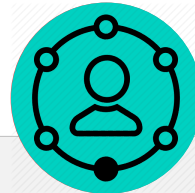


Goal: Improve U2L(User to Lease) Ratio

Conversion Funnel Analysis User Behavior/Cohort Analysis Market Priority Analysis



- Channel performance
 - top-of-the-funnel activities
 - optimize channel spending
- Conversion rate performance
 - different user stage
 - different platform
 - Optimization product features



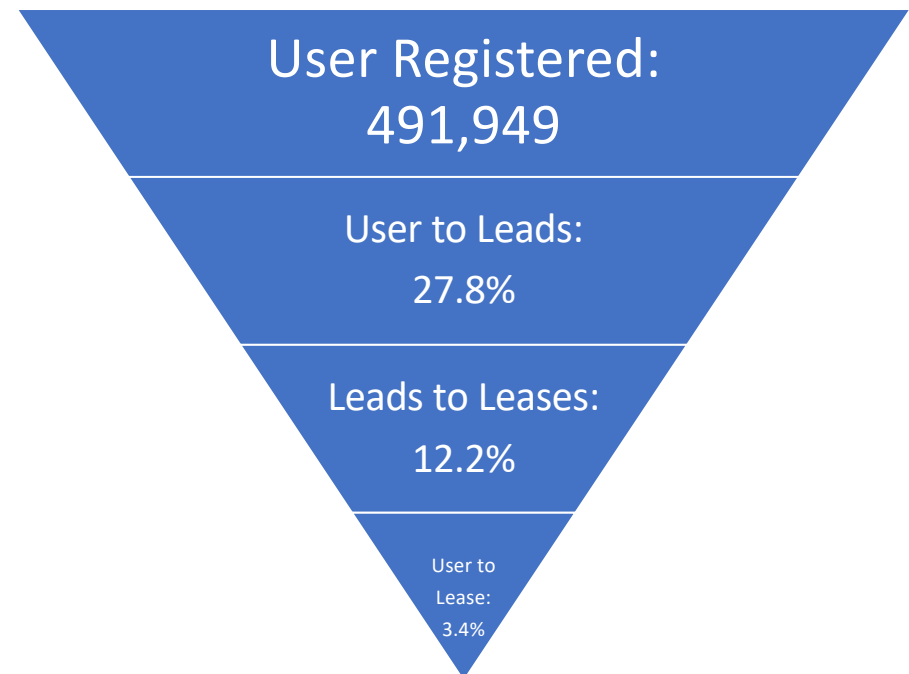
- Understand how different user group behave
- Major factor in a renter decision to rent
 - optimize multiple attributes
- Cohort and retention analysis
 - prevent business loss and optimize user experience



- Analyze popular market
 - total listings
 - U2L(user to lease) rate
- Supply side analysis
 - channel spending
 - listing optimization
- Demand side analysis
 - channel spending

KPIs for for Reference

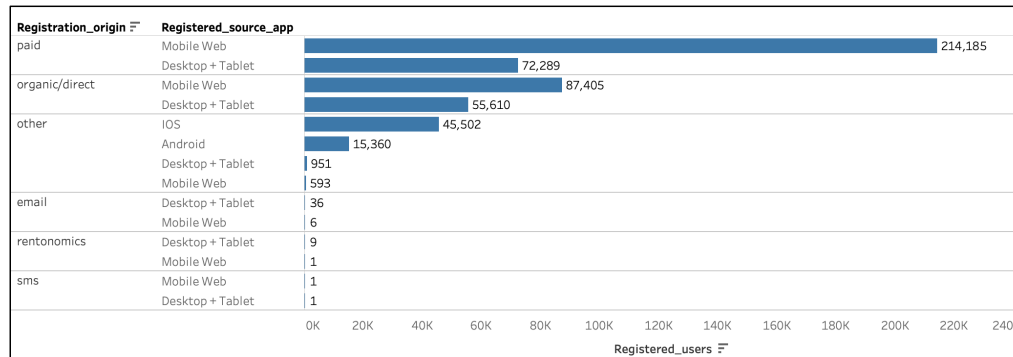
- U2Leads (User to Leads) Rate: 27.8%
- Calculation: $\text{Sum of leads} / \text{Sum of registered users}$
- **Interpretation:** The percentage of registered users who showed renting intention on the apartment list platform, reflecting renting urgency and preference
- L2L(Leads to Leases) Rate: 12.2%
- Sum of leases/sum of leads
- Interpretation: Out of users who showed interests in listings, how many of them successfully ending up with lease contracts, reflecting the platform efficiency in stimulating transactions
- U2L(User to Lease) Rate: 3.4%
- Sum of leases/Sum of registered users
- Interpretation: Overall success of the platform in helping renters find their apartments





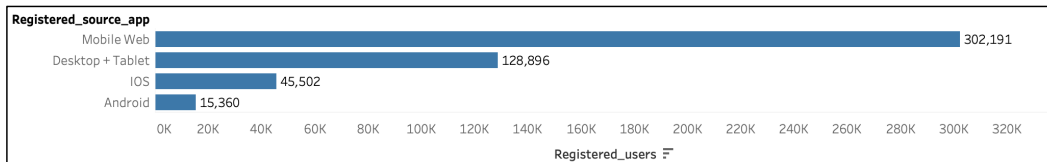
Funnel Conversion Analysis: Top-of-the Funnel Activities

Registered Users Traffic by Origins



Out of 6 registered origins, **paid, organic and other** have played the driving force in bringing new registered users, with paid mobile web as the most important and effective channel, **Email, rentonomics and SMS** channels have not been fully utilized at all, thus bringing little customers

Registered Users Traffic by Sources



The registered user % on different source platforms is: Mobile Web(61.4%), Desktop + Tablet(26.2%), iOS(9.3%), Android(3.1%), mobile web is the most important source app in bringing customers

Insights: In order to increase the full channel coverage, which makes users easily find apartment list, it is important to cover more channels

Why it matters:

In the absence of full channel coverage, two scenarios can occur:

Lost business:

- Few registered users
- Those who can't find apartment list will turn to competitors - huge negative impact on the future awareness and retention of users

Overly rely on few channels:

- CAC and LTV will be highly influenced by channel cost
- Competition from competitors on the same channels

Moreover, SMS and email channels can be used to send apartment updates and add subscription service to increase user retention rate



Funnel Conversion Analysis - Product feature optimizing opportunities

Platform Conversion Analysis

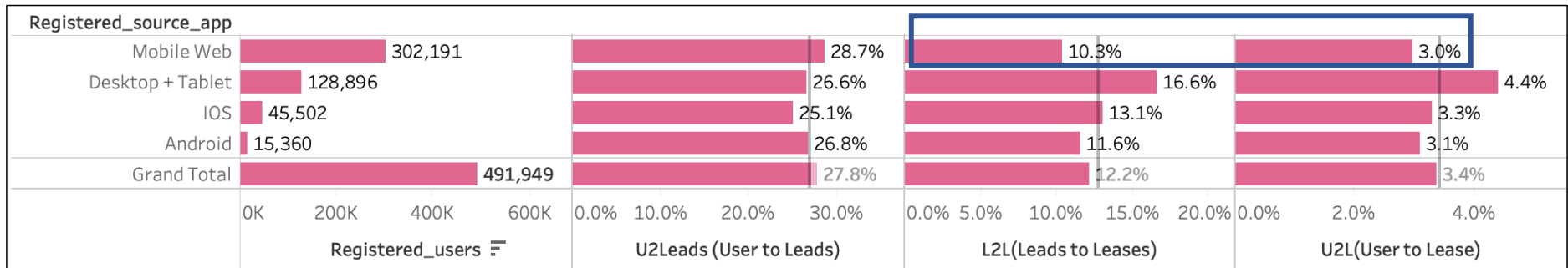


Table Interpretation

Out of the 4 registered platforms, iOS has brought 3x more registered users than Android, but the U2L rate is almost the same

To increase Android users, 1) check keywords ranking in different App Stores, 2) optimize registration process for Android users

User to Leads ratio indicates the % of users who showed renting intention. There is not much fluctuations between User to Leads ratio in different platform, with iOS has slight lower rate than other platforms.

This relatively stable user to leads rate indicates the requesting feature by Apartment List platform is doing a decent job.

L2L(Leads to lease ratio) reflects the platform efficiency in stimulating transactions, and this is a critical step towards final conversion. Under the condition that user to leads ratio stays relatively stable among all platforms, the final U2L(user to lease) conversion rate is influenced by the leads to leases ratio. Thus, it is important to optimize leads to leases ratio to increase the platform profitability.

L2L(Leads to lease ratio) is highly varied in different platforms. Mobile web has the lowest L2L in comparison with other platforms, thus resulting in the lowest U2L rate, and desktop+tablet has the highest leads to leases ratio, thus resulting in the highest U2L rate. This indicates users have better experience on desktop and tablet.

Platform Optimization Insights

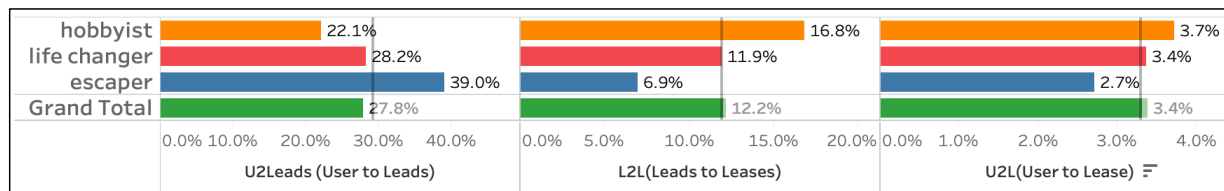
Mobile Web brought the highest volume of customers(62%) while has the lowest L2L and U2L rates, it's worth to optimize user experience on the mobile web platform. It is highly likely a slight % increase in L2L rate will result in huge incremental lift in conversion rate based on the huge mobile web platform user base.

Solution: drill down customer journey in completing certain steps towards lease, and find out which step has the highest obstacles/failure rate, prioritize attributes, formulate hypothesis and conduct A/B testings to optimize user experience on mobile web



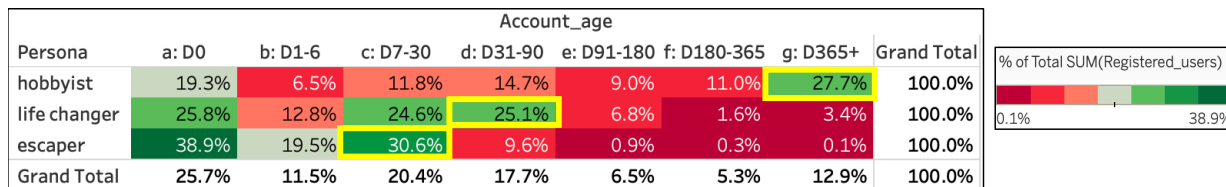
Cohort Analysis – Conversion and Retention analysis

Conversion Rate by Different User Segments, Colored by Segment



Escaper group has the **highest urgency** to find an apartment but the lowest final U2L conversion rate, which means apartment list **has not fulfilled** the demand for this segment

Retention Rate by Different User Groups, Colored by Retention Rate



Escaper group has the **highest overall churn rate**, after 30 days, 10% of this group left. After 365 days, this group has totally churn away. **First 7 days** is the critical period to capture this group

Churn rate for the **life changer group** is the **second highest**, after 90 days, only 7% of this group has left. After 365 days, only 3.4% has left. **Friday 30 days** user experience is the critical period for this group to stay on the platform

Insights: Customize retention strategy to fulfill the unfulfilled demand for escaper and life changer groups

Why it matters: long-term cost: low retention and low U2L will make users unlikely to come back in the future or recommend this platform to other users; waste marketing acquisition cost

Escaper group(20% of total users) – unsatisfied demand group

- highest urgency to find apartments based on User to Leads rate
- lowest user to lease rate
- Highest churn rate
- time sensitivity is key
 - critical period to capture this group is the first 7 days
 - streamline the leasing processing period to remove the obstacles in decision making
 - add subscription service for this group to send frequent listing recommendations within first 7 days

Life changer group(38% of total users) – medium satisfied

- second highest urgency to find based on User to Leads rate
- average user to lease rate
- medium time sensitivity – first 30 days
 - streamline the leasing processing period to remove the obstacles in decision making
 - add subscription service for this group to send frequent listing recommendations within first 30 days

Hobbyist Group(42% of total users) - most satisfied

- highest user to lease ratio
- good retention rate, most loyal customers
- consider promote referral bonus for this group



Market Analysis

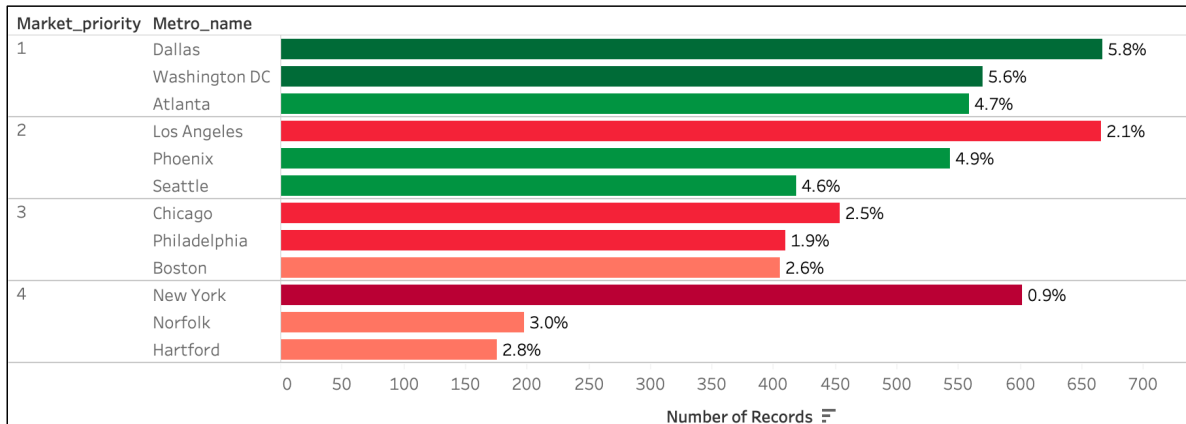
Conversion Rate by Different Market Priority

Market_priority	Registered_users	Number of Records	User/Apartment	Leads	Leases	U2Leads	Lead2Lease	User2Lease
1	118,984	3,124	38	47,846	6,419	40.2%	13.4%	5.4%
2	126,262	4,352	29	37,922	4,882	30.0%	12.9%	3.9%
3	89,599	4,642	19	24,203	2,557	27.0%	10.6%	2.9%
4	42,117	2,759	15	7,295	765	17.3%	10.5%	1.8%
Grand Total	376,962	14,877	25	117,266	14,623	31.1%	12.5%	3.9%

Market 1,2 indicate the oldest, mature markets, and 3,4 indicate the newest markets. In general, mature markets have both more users and more property listing. Newest markets have significant lower U2L conversion rate than mature markets. The reason of the low U2L conversion rate in market 3 and 4 could be

- 1)Market penetration(supply side): According to the user/apartment ratio, on average, an apartment has more chance being viewed by different users in old markets than new markets
- 2)Registered users(demand side): there are fewer users in the new market, thus, increasing user registered would likely increase the conversion rate

Conversion Rate by Top 3 Metropolitan in Each Market, Volume by Number of Apartments, Colored by U2L Conversion Rate



No.1 Market is the oldest and healthiest, which can be reflected from the number of apartments listed and the U2L conversion rate

Los Angeles is the anomaly in No.2 Market with the lowest U2L rate

The top 3 cities in No.3 Market have relatively low U2L rate

New York City has the lowest conversion rate in No.4 Market with the most listings

Recommendations:

- 1) increase budget on paid channels on market 3 and 4 to increase user base in order to increase user to leads ratio
- 2) increase channel spend on house owners to post listings
- 3) Research to improve listing quality to improve user to leads ratio on low performance market, such as NYC and LA - more data needed to drill down



Summary and Recommendations to improve U2L ratio

Top-of-the-funnel Activities

- Top 3 Effective channel
 - Paid, organic and other
- Ineffective/inactive channels:
 - Email, rentonomics and SMS
 - Recover channels
- Improvements
 - Full channel coverage
 - Utilize email and SMS as subscription service for user group

Three Metrics

- U2L (User to Leads) Ratio
 - Sum of leads/Sum of registered users, % of registered users who showed renting intention on the apartment list platform, reflecting renting urgency and preference on different listings
- L2C(Leads to Leases) Ratio
 - Sum of leases/sum of leads, reflecting the platform efficiency in stimulating a transaction
- U2L(User to Lease) Ratio
 - Sum of leases/Sum of registered users, reflecting overall success of the platform in helping renters find their apartments

Platform Conversion

- Mobile Web(61.4%)
 - Largest user base
 - Lowest U2L rate
- Desktop + Tablet(26.2%)
 - Highest U2L rate
- iOS vs. Android
 - iOS brought 3x more registered users than Android
 - Similar User to Lease conversion rate
 - Increase Android base by
 - 1) check keywords ranking in different App Stores
 - 2) optimize registration process for Android users
- Improvements:
 - Optimize user experience on the mobile web platform
 - Drill down customer process in completing certain steps and find out which step has the highest obstacles/failure rate, prioritize attributes, formulate hypothesis and conduct A/B testings

User Segments

- Escaper group(20% of total users) – unsatisfied demand group
 - highest time sensitivity
 - lowest user to lease rate
 - critical period to capture this group: first 7 days
 - 1st highest churn rate
- Life changer group(38% of total users) – medium satisfied
 - second highest time sensitivity
 - average U2L rate
 - critical period to capture this group: first 30 days
 - 2nd highest churn rate
- Hobbyist Group(42% of total users) - most satisfied
 - highest U2L rate
 - good retention rate, most loyal customers
- Improvements:
 - streamline the leasing processing period
 - add subscription service
 - send frequent listing recommendations within first 7 days and 30 days
 - Consider promote referral bonus for Hobbyist group

Market Segments

- No.1, No.2 markets
 - mature markets
 - high U2L rate
 - more user base
 - rich listings
 - Los Angeles performs worst in No.2 market
- No.3, No. 4 markets
 - newest markets
 - significant lower U2L rate
- Improvements
 - Demand side: increase budget on paid channels on market 3 and 4 to increase user base
 - Supply side: increase channel spend on house owners to post listings
 - more properties and more users would increase the likelihood that a renter finds a place to live
 - Improve listing quality to improve user to leads ratio on low performance market, such as NYC and LA
 - More data need
 - External: competition
 - Internal: geographical, price, picture

Appendix

Appendix

- More Dimension Checklist
 - no strong seasonality in registration origins
 - no strong fluctuation between the registered source app in each month
 - no specific preference from each persona on different registered sources - **no immediate need for specific targeting on different group**
 - no specific preference of registered sources for different markets
 - composition of persona in each platform is quite stable, no specific preferences of each persona on channel or platform - **optimizing platform performance Leads to Lease rate will benefit all users**
 - no strong correlation between the registered time in each platform
 - no preference for persona on specific platform - consistent with total persona % distribution
 - no obvious correlation between register time and retention rate
 - no specific preference on market priority from channels
 - stable registered users in each month in difference market
 - no strong fluctuation of metro popularity in different months
 - **different channel retaining customers differently**
 - **Android as the lowest, desk + tablet as the highest**

Quick Numbers

- Time Period: 2019.1.1 - 2019.4.1
- Total registered users: 491,949
 - January: 174,461, February: 145,929, March: 165,599, April: 5,960(only has one day)
- Total Leads: 136,571
- Total leases: 16,624
- Total Channels: 6 registration origins(total users%): paid(58.2%), organic/direct(29.1%), other(12.7%), email(0.0%), rentonomics(0.0%), sms(0.0%)
- 4 Registered source app(total users%): Android(3.12%), IOS(9.25%), Desktop + Tablet(26.2%), Mobile Web(61.4%)
- 4 Persona(total users%): : hobbyist(41.6%), life changer(38.3%), escaper(19.8%), other(0.3%)
- 4 Market Priority: 1 being the oldest markets, 4 being the newest
- 83 distinct metropolitan areas
- Overall Conversion Rate:
 - U2Leads(User to Leads) Rate: 27.8%
 - L2L(Leads to Leases) Rate: 12.2%
 - U2L(User to Lease) Rate: 3.4%