LPL_Case_Study

September 26, 2022

1 Part 1: Analytics Framework

1.0.1 Goals:

- Which metrics are critical to evaluate?
- At a high-level, what data would be required for these metrics and how might you source it?
- Are there any data sensitivities?

Imagine you're starting a new business that provides a service for Financial Advisors. Currently, some Advisors independently provide the service to their end-clients. Other Advisors do not provide the service at all since it can be time consuming and requires an investment upfront to build the necessary skillset. Your new business gives the Advisor the opportunity to outsource this service to you, saving time for Advisors previously providing the service and expanding the business proposition of those not qualified to provide it. The Advisors are your direct customers making payment to you; they also act as a liaison between you and the end-client. Advisors can subscribe to the service for a 6-month period in two ways: (1) pay as you go (pay for only what is needed at a premium cost per service) or (2) contract with minimum commitment (discounted cost per service with total contract amount paid in equal amounts each month). You are part of your business' management team that oversees both the business itself and the team of operational staff that does the tangible service work.

Which metrics are critical to evaluate?

- Finance:
  - What is our cost to provide the service?
  - Given that we have different services / pricing levels, what is our profit margin for each service?
  - What are profits and costs for each type of subscription?
  - Do certain service levels require higher operational expenses, and should these only be offered to Advisors who are managing higher amounts?
- Usage:
  - Of the Advisors who use the service, what percentage use each type of service?
  - Of the Advisors who use the service, what percentage use each type of subscription?
  - Over time, do we see different usage levels for each type of service we offer?
  - Are we seeing a change over time in the percentage of our Advisors who use the service vs the Advisors who don't?
  - What is the average retention / churn rate for Advisors with our services vs Advisors without our services vs overall?

        * By service type?

- Clients:
  - For each service level that we offer, what percentage of end-clients are within each level, out of the clients who have Advisors that use at least one service
  - For the Advisors that switch from not using our service to using at least one service, do they see an increase in the number of clients? Is their client growth higher after starting service vs client growth prior to using the service?
  - Feedback / ratings / satisfaction among clients for each type of service offered
  - Do we see higher satisfaction rates among clients who have an Advisor that uses at least one service?
  - Conversely, do we see lower satisfcation rates among clients who have an Advisor that does not use at least one service?
  - What is the average client count for Advisors who use the service vs Advisors who don't?
    * What is the average count by service type?

At a high-level, what data would be required for these metrics and how might you source it?

- Finance:
  - expenses / profit / revenue for each type of service
    * operations / internal teams / cost of infrastructure and tools / revenue by service type
  - expenses / profit / revenue for each type of subscription
    * operations / internal teams / cost of infrastructure and tools / revenue by subscription type
  - the amount each Advisor manages
    * sourced from the Advisors
- Usage
  - what type of service does each Advisor use
    * sourced from the Advisors
  - what type of subscription does each Advisor use
    * sourced from the Advisors
  - total Advisor count
    * internal data / sourced from the Advisors

- Clients
  - count of clients by month for each service type
    * sourced from the Advisors
  - count of clients by month for each Advisor
    * sourced from the Advisors
  - client feedback
    * survey data, form on a website
  - how many clients leave each month
    * internal data or the Advisors

Are there any data sensitivities?

- Any PII related to clients should be scrubbed out, except for maybe age (but DOB should not be included)
- Advisor PII should be scrubbed from the data and only referred to by ID unless we need to communicate with them directly
- Once we determine what metrics to use, we should also determine which of those metrics can be shared with Advisors and clients and which metrics should stay internal to management

2 Part 2: Data Analysis

2.0.1 Goals:

- Explore the data and see what insights you can find
- Determine how best to visualize the data
- Start with a descriptive analysis of the historical data
  - What is essential to know?
  - Profitability, sales, operational efficiency & productivity… are there trends, good or bad?
- Bonus (not required) Perform a simple predictive analysis to forecast one of the metrics

2.1 TakeAways

High Level Stats:

- Personnel Costs: $320,000
- Gain from Services Provided: $202,630
- The average gain per service request is ~$203
- Average gain per Advisor: $2047
- 33% profit margin overall (total Net / total Price)* 33% profit margin overall (total Net / total Price)
- Each Advisor has an average of 10 clients
- 99 individual Advisors, 947 individual Clients
  - Advisors: 64 Independent | 35 Institutional
  - Clients: 794 Independent | 206 Institutional
- Advisor average tenure: 7 years
  - Independent: 6.9 years
  - Institution: 7.3 years
- On average, a request took 8.2 hours to complete over 5.2 days and required 2 team members
- First Request Date: 01-01-2022
- Last Complete Date: 07-05-2022
- Activity peaked around April and the months following:
  - April had the most requests and most total profit

  - May and June were the second and third most profitable months

2.1.1 Notes and Assumptions

- two pricing tiers based on the Start Date
- assigned Tier to the request based on Request Date
- the business starts collecting revenue once the service request is complete
- Cost = ops hours * FTE/hour (all ExpenseTypes were Ops)
- Net = Price - Cost

Tables and Breakdowns: Profit Margins:

- **Overall:** 33.1%
- **Channel:**
  - Independent: 32.8%
  - Institutional: 34.2%
- **Tier:**
  - Tier 1: 30.1%
  - Tier 2: 35.9%
- **Service Type:**
  - A: 17.1%
  - B: 21.5%
  - C: 42.5%
- Tiers:
  - Tier 1
    - Average Gain: $178.50
    - Total Gain: $89,765
  - Tier 2
    - Average Gain: $227.10
    - Total Gain: $112,865
  - Tier 2 saw a higher average gain per request due to the higher pricing scheme
- Channel:
  - Institution
    - Average Gain: $219.00
    - Total Gain: $45,115
  - Independent
    - Average Gain: $198.40
    - Total Gain: $157,515
  - Roughly 4x the number of Independent Clients as Institutional Clients

Net by Tier:

```
        Average Net by Tier
Tier
Tier 1           178.459245
```

```
Tier 2           227.092555

        Total Net by Tier
Tier
Tier 1            89765.0
Tier 2           112865.0
```

Net by Channel:

```
             Average Net by Channel
Channel
Independent              198.381612
Institution              219.004854

             Total Net by Channel
Channel
Independent              157515.0
Institution               45115.0
```

Net by Service Type:

```
             Average Net by Service Type
ServiceType
A                            44.914040
B                           112.838710
C                           445.674487

             Total Net by Service Type
ServiceType
A                            15675.0
B                            34980.0
C                           151975.0
```

Net by Tier and Service Type:

```
Average Net by Tier and Service Type

ServiceType          A           B           C
Tier
Tier 1       29.011976   92.187500  398.693182
Tier 2       59.505495  134.866667  495.787879

Total Net by Tier and Service Type

ServiceType        A        B        C
Tier
Tier 1        4845.0  14750.0  70170.0
Tier 2       10830.0  20230.0  81805.0
```

Breakdown of All Transactions by Tier and Service Type:

Tier	A	B	C
Request Breakdown by Tier and Service Type			
Tier 1	0.167	0.16	0.176
Tier 2	0.182	0.15	0.165

Operations - Average Metrics:

Operations Averages

	Duration			OpsHours			\
ServiceType	A	B	C	A	B	C	
Tier							
Tier 1	3.556886	4.48125	7.443182	4.41976	8.156250	12.026136	
Tier 2	3.510989	4.54000	7.503030	4.30989	8.302667	12.084242	

	OpsTeam		
ServiceType	A	B	C
Tier			
Tier 1	1.988024	2.06875	2.028409
Tier 2	2.137363	2.06000	2.103030

Cost by Tier and Service Type:

Average Cost by Tier and Service Type

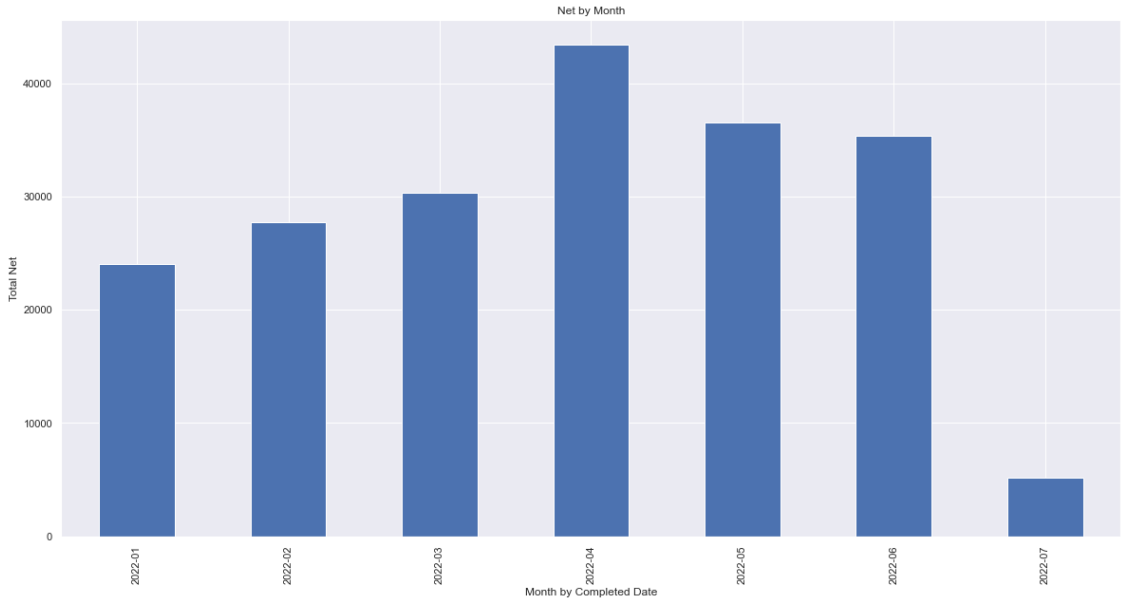
ServiceType	A	B	C
Tier			
Tier 1	220.988024	407.812500	601.306818
Tier 2	215.494505	415.133333	604.212121

Total Cost by Tier and Service Type

ServiceType	A	B	C
Tier			
Tier 1	36905.0	65250.0	105830.0
Tier 2	39220.0	62270.0	99695.0

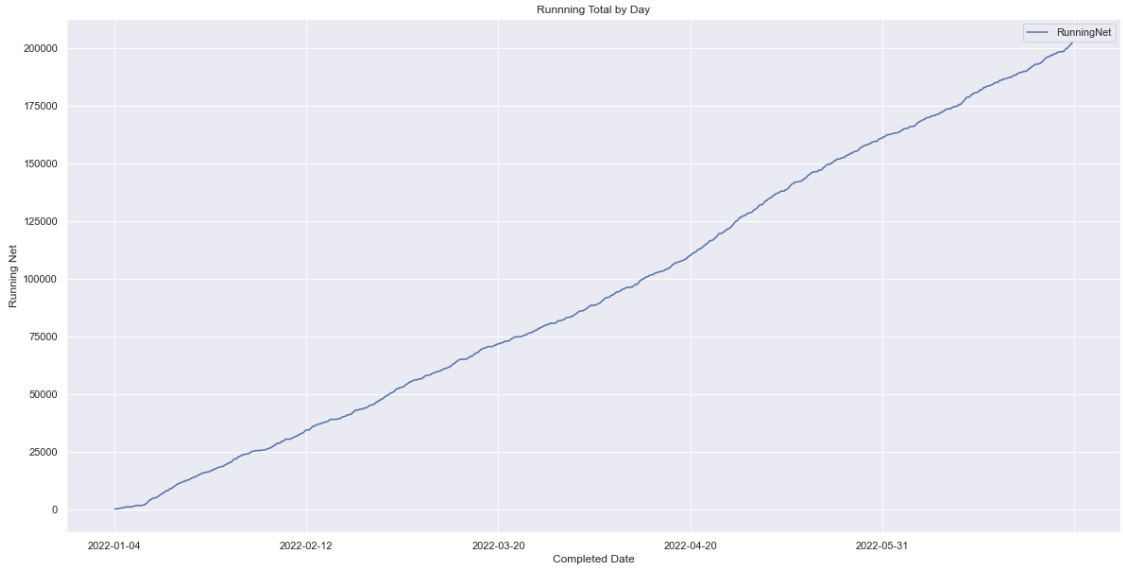
Charts: Net by Month:

AxesSubplot(0.125,0.125;0.775x0.755)



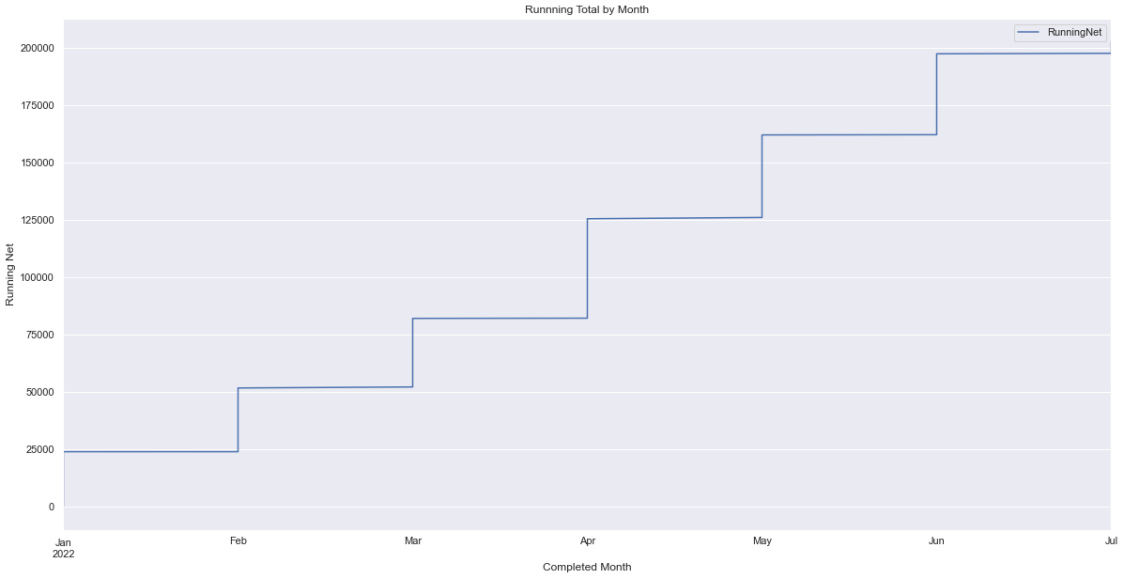
Running Total by Day:

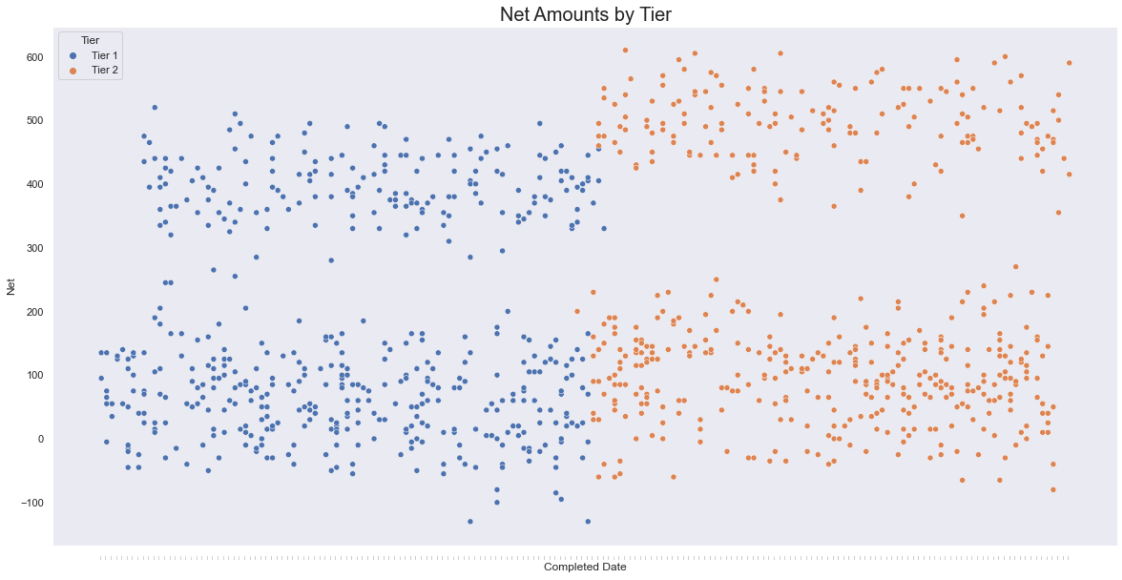
`AxesSubplot(0.125,0.125;0.775x0.755)`

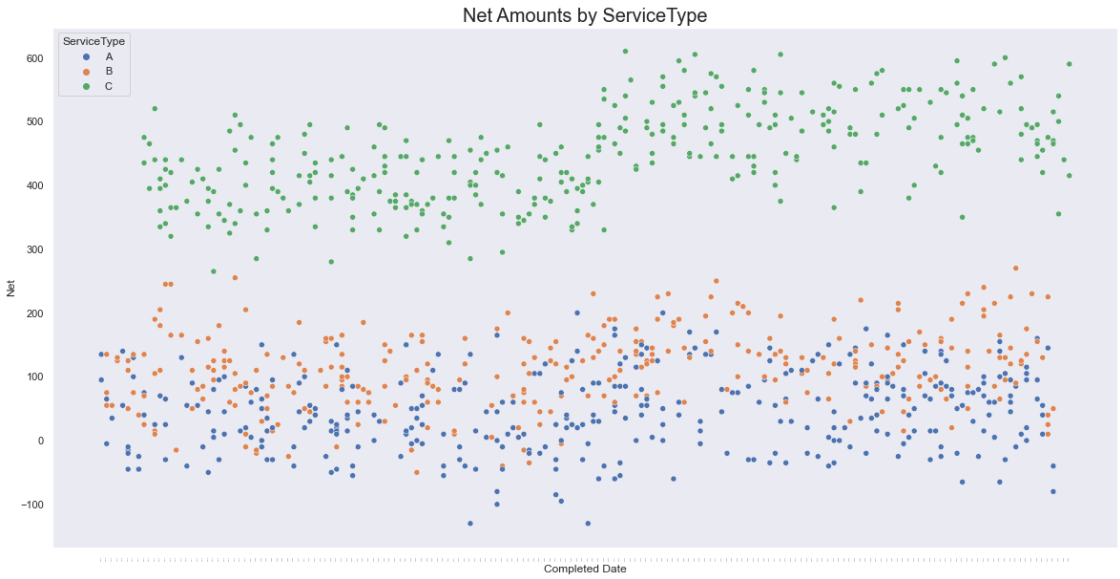


Running Total by Month:

`AxesSubplot(0.125,0.125;0.775x0.755)`


Runnning Total by Month
RunningNet
200000
175000
150000
125000
100000
75000
50000
25000
0
Running Net
Jan
2022
Feb
Mar
Apr
May
Jun
Jul
Completed Month


Net Amounts by Tier
Tier
Tier 1
Tier 2
600
500
400
300
200
100
0
−100
Net
Completed Date



2.1.2 Conclusions:

- The switch to Tier 2 pricing will benefit the business going forward. The higher pricing per Service Type will lead to higher revenue
- We see higher margins among Institutional Advisors / Clients and with Service Type C
  - This can be a focus area going forward
  - Is it possible to reduce expenses for Services A and B?
  - Is it possible to reduce expenses for requests from Independent Advisors?
- Improving some of the Operations metrics can lead to higher margins:
  - Fewer days to implement each Request
  - Fewer hours to implement each Request
  - Fewer team members to implement each Request
- Activity peaked around April and the months following:
  - April had the most requests and most total profit
  - May and June were the second and third most profitable months
    - April was profitable because of the number of requests, both C and overall
    - May was profitable because of the number of Service C requests
    - June was profitable because of the total number of requests
  - Is it typical to see more requests around April/May/June?