

Field Project - Thesis

Financial Model of a Decentralized Payment Platform - Uppcoin

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Abstract

In the field project, I have worked on developing a financial model for Uppcoin. Uppcoin is a blockchain based firm which is aiming to enter the peer to peer transactions market. The firm is aiming to make peer to peer transactions more seamless and accessible to general customers by adding more security and making cheaper transactions using the power of blockchain.

The financial model is constructed by first making the basic assumptions about the company's industry as information services and then the various sources such as Statista, Damodaran etc are used to get the data about the similar firms in the industry. These industry statistics' (ratios) were further assumed to make the key assumptions for calculation of firm's revenues , costs and valuation etc.

After making the key assumptions, the main financial reports such as Balance Sheet, Income Statement and Cash Flow Statement have been modeled for a period of 5 years (2018 – 2022) along with providing the key graphical representations with respect to the period.

Further, Free Cash Flow Calculations and valuation calculation including the IRR calculation has been done.

Finally, the competitive analysis has been presented based upon the important ratios and key conclusions & suggestions are provided.

Chapter 1 : Company Introduction : Uppcoin

The current world of peer to peer lending is mostly governed by two financial infrastructures; Banks and Fintech Firms. Banks are based upon the concept of trust and act as third parties to process the payments. However, it has been found that the transaction using banks are time consuming, costly and there has been various cases of security breaches.

Some of the Fintech Firms which tried to solve above stated problems are PayPal, Venmo, Square, Facebook payments, ApplePay, Google Wallet, Mpesa, WeChat Pay, TransferWise. These services act as a middleman, are relatively cheaper with respect to banks and the transfer can easily be done on your mobile phone/computer. However, we have seen that the transactions are often delayed if an account is blocked by the service provider due to unusual activity or if the platform experiences an outage.

Uppcoin is a blockchain based fintech firm whose goal is to make faster payments with less costs along with inbuilt consumer information protection. The aim is to use the power of blockchain to make transactions information distributed in a wide way so as to make it practically impossible to hack. In addition, Uppcoin aims to depend on blockchain for transaction and hence removing the various intermediaries for the transaction and thus making the transactions fast and cheap for customers.

Currently, the tech team is involved in the production of the minimum viable product (MVP).

Chapter 2 : Key Assumptions of Financial Model

According to the statista website details (1), the total transaction value in mobile pos payments is assumed to be 41 Million USD for year 2018 with an expected CAGR (2018-2022) of 49.2 % . As uppcoin is based on targeting the mobile pos payments in hungary, hence the above information from statista website is the basic assumption being made for making the financial model of Uppcoin. Referring to Table 1 , it is further assumed that market share of Uppcoin in Hungarian Market will grow from 5% to 15 % in the period 2018-2022. Further, the revenue margin per transaction is assumed to decrease from 4% to 1.5% in the period 2018-2022.

Table 1

Revenues (in \$)					
	2018	2019	2020	2021	2022
Digital Transaction Value	41,000,000	61,172,000	91,268,624	136,172,787	203,169,798
Market Share (%)	5.00%	10.00%	15.00%	20.00%	15.00%
Market Share (\$)	2,050,000	6,117,200	13,690,294	27,234,557	30,475,470
Uppcoin Revenue Margin	4.0%	3.0%	2.0%	1.5%	1.5%
Uppcoin Revenue (\$)	82,000	183,516	273,806	408,518	457,132

Due to the unavailability of most reliable data for Information Services Companies in Central Eastern Europe Region, it has been further assumed that the Uppcoin financials would be much similar to Information Services Companies in Western Europe. From Aswath Damodaran website (2) , the industry averages of costs (Table – 2) were further used to estimate the costs of Uppcoin (Table – 3)

Table - 2

Industry Averages	
(COGS) / Sales for Information Services for Western Europe :	40.00%
(SG&A) / Sales for Information Services for Western Europe:	17.09%
Capital Expenditures / Sales for Information Services for Western Europe :	3.05%

Table - 3

Total Revenues (in \$)					
	2018	2019	2020	2021	2022
Total Revenues	82,000	183,516	273,806	408,518	457,132

(SG&A)Costs					
	2018	2019	2020	2021	2022
SG&A Margins (wrt Revenues)	20%	20%	18%	15%	15%

Capital Expenditures					
	2018	2019	2020	2021	2022
PP&E Margins (wrt Revenues)	5%	5%	4%	3%	3%

Cost of Goods Sold					
	2018	2019	2020	2021	2022
Cost of Goods Sold Margins (wrt revenues)	25%	25%	20%	15%	15%

Further below are the other assumptions:

Table 4

Growth and Tax	
GDP	3%
Tax Rate	11%

Cost of Capital	
Risk Free Rate:	2.96%
Country Risk Premium	2.54%
Country Exposure	1.00
Equity Risk Premium	20.00%
Beta:	1.06
Implied Risk Premium:	23.80%
Cost of Capital	26.77%

Parity Exchange	
Dollar / TL	1

Current Assets (Days)	
Accounts Receivables	30
Account Payables	30

Chapter 3 : Income Statement

Table 5

(in \$)						
	Historical 2017	Projected 2018	Projected 2019	Projected 2020	Projected 2021	Projected 2022
Revenues	0	\$82,000	\$183,516	\$273,806	\$408,518	\$457,132
Total Revenues	0	\$82,000	\$183,516	\$273,806	\$408,518	\$457,132
% Growth			124%	49%	49%	12%
Cost of Goods Sold	0	\$20,500	\$45,879	\$54,761	\$61,278	\$68,570
Gross Profit	0	\$61,500	\$137,637	\$219,045	\$347,241	\$388,562
SG&A	0	\$16,400	\$36,703	\$49,285	\$61,278	\$68,570
Total SG&A	0	\$16,400	\$36,703	\$49,285	\$61,278	\$68,570
% of Sales		20%	20%	18%	15%	15%
EBITDA	0	\$45,100	\$100,934	\$169,760	\$285,963	\$319,992
% Margin		55%	55%	62%	70%	70%
Total Depreciation	0	\$2,050	\$3,518	\$5,161	\$6,387	\$6,387
EBIT	0	\$43,050	\$97,416	\$164,599	\$279,576	\$313,606
Taxes	0	4735.5	10715.724	18105.855	30753.397	34496.651
Net Income	0	\$38,315	\$86,700	\$146,493	\$248,823	\$279,109
% of sales		47%	47%	54%	61%	61%

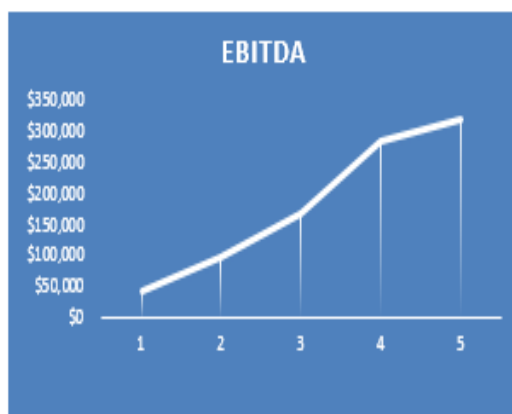
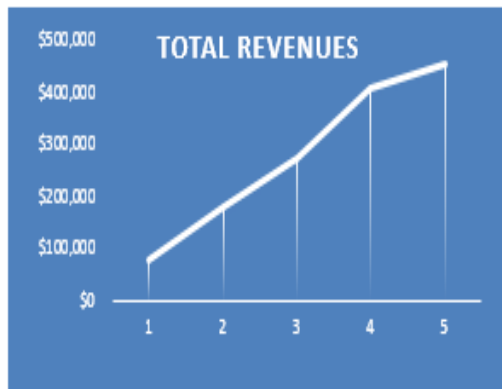
Table 6

Depreciation

(in \$)

Year		2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
	PP&E	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
2018	\$20,500	\$2,050	\$2,050	\$2,050	\$2,050	\$2,050	\$2,050	\$2,050	\$2,050	\$2,050	\$2,050
2019	\$14,681		\$1,468	\$1,468	\$1,468	\$1,468	\$1,468	\$1,468	\$1,468	\$1,468	\$1,468
2020	\$16,428			\$1,643	\$1,643	\$1,643	\$1,643	\$1,643	\$1,643	\$1,643	\$1,643
2021	\$12,256				\$1,226	\$1,226	\$1,226	\$1,226	\$1,226	\$1,226	\$1,226
	Total	\$2,050	\$3,518	\$5,161	\$6,387	\$6,387	\$6,387	\$6,387	\$6,387	\$6,387	\$6,387
	Acc. Depr.	\$2,050	\$5,568	\$10,729	\$17,116	\$23,502	\$29,889	\$36,275	\$42,662	\$49,048	\$55,435

Graphical Representation 1



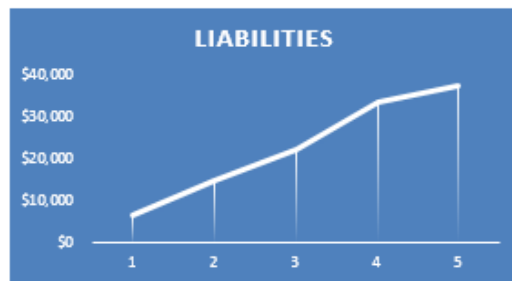
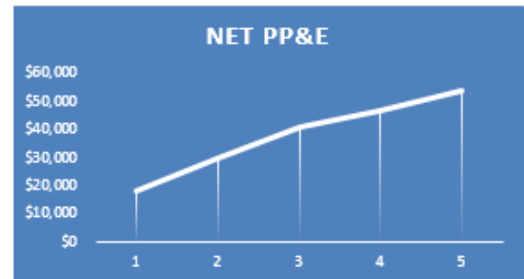
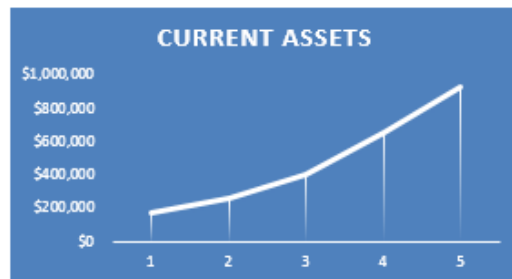
Shown above are the graphs representing units in USD (Y axis) wrt to period in years (X axis) .

Chapter 4 : Balance Sheet

Table 7

<u>Assets</u>	2017	2018	2019	2020	2021	2022
Cash	\$0	\$169,865	\$245,401	\$380,627	\$623,581	\$895,363
Accounts Receivable	\$0	\$6,740	\$15,084	\$22,505	\$33,577	\$37,572
<i>Total Current Assets</i>	<i>\$0</i>	<i>\$176,604</i>	<i>\$260,485</i>	<i>\$403,131</i>	<i>\$657,158</i>	<i>\$932,935</i>
PP&E		\$20,500	\$35,181	\$51,610	\$63,865	\$77,579
Accumulated Depreciation		\$2,050	\$5,568	\$10,729	\$17,116	\$23,502
Net PP&E	\$0	\$18,450	\$29,613	\$40,881	\$46,750	\$54,077
TOTAL ASSETS	\$0	\$195,054	\$290,098	\$444,012	\$703,907	\$987,012
<u>Liabilities and Equity</u>						
Account Payable	\$0	\$6,740	\$15,084	\$22,505	\$33,577	\$37,572
Long Term Debt as Equity	\$0	\$0	\$0	\$0	\$0	\$0
Total Liabilities	\$0	\$6,740	\$15,084	\$22,505	\$33,577	\$37,572
Contributed Equity	\$0	\$150,000	\$150,000	\$150,000	\$150,000	\$150,000
Retained Earnings	\$0	\$38,315	\$125,015	\$271,507	\$520,330	\$799,440
Distribution						
Total Equity	\$0	\$188,315	\$275,015	\$421,507	\$670,330	\$949,440
TOTAL LIABILITIES & EQUITY	\$0	\$195,054	\$290,098	\$444,012	\$703,907	\$987,012

Graphical Representation 2



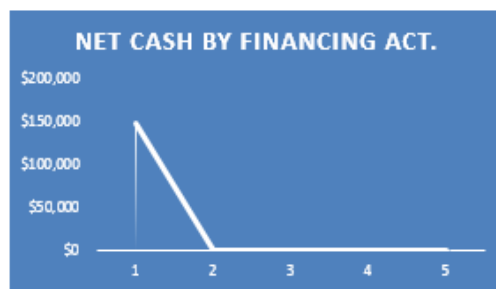
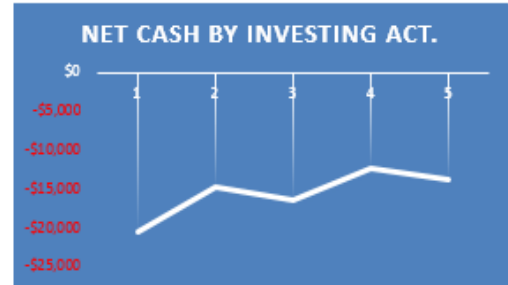
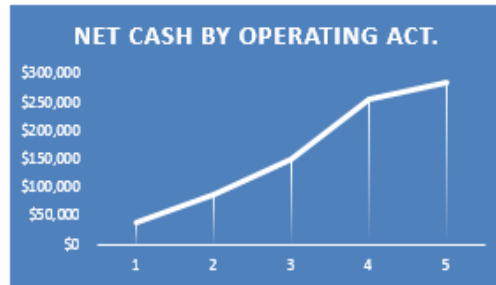
Shown above are the graphs representing units in USD (Y axis) wrt to period in years (X axis) .

Chapter 5: Cash Flow Statement

Table 8

	2018	2019	2020	2021	2022
Net Income	\$38,315	\$86,700	\$146,493	\$248,823	\$279,109
Adjustments					
Depreciation and Amortization	\$2,050	\$3,518	\$5,161	\$6,387	\$6,387
Changes in Assets and Liabilities					
(Increase) Decrease in Accounts Receivables	-\$6,740	-\$8,344	-\$7,421	-\$11,072	-\$3,996
Increase (decrease) in accounts payable	\$6,740	\$8,344	\$7,421	\$11,072	\$3,996
NET CASH BY OPERATING ACTIVITIES	\$40,365	\$90,218	\$151,654	\$255,209	\$285,496
Cash Flows from Investing Activities					
Equipment Purchases	-\$20,500	-\$14,681	-\$16,428	-\$12,256	-\$13,714
NET CASH BY INVESTING ACTIVITIES	-\$20,500	-\$14,681	-\$16,428	-\$12,256	-\$13,714
Cash Flows from Financing Activities					
Issuance of Stock	\$150,000	\$0	\$0	\$0	\$0
Proceeds (payments) of Debt	\$0	\$0	\$0	\$0	\$0
Distribution to Shareholders					
NET CASH BY FINANCING ACTIVITIES	\$150,000	\$0	\$0	\$0	\$0
NET INCREASE (DECREASE) IN CASH	\$169,865	\$75,537	\$135,225	\$242,954	\$271,782
Beginning Cash	\$0	\$169,865	\$245,401	\$380,627	\$623,581
Ending Cash	\$169,865	\$245,401	\$380,627	\$623,581	\$895,363
Free Cash Flow	\$32,407	\$80,169	\$139,235	\$233,956	\$279,206
Cumulative Free Cash Flow	\$32,407	\$112,576	\$251,811	\$485,767	\$764,973

Graphical Representation 3



Shown above are the graphs representing units in USD (Y axis) wrt to period in years (X axis) .

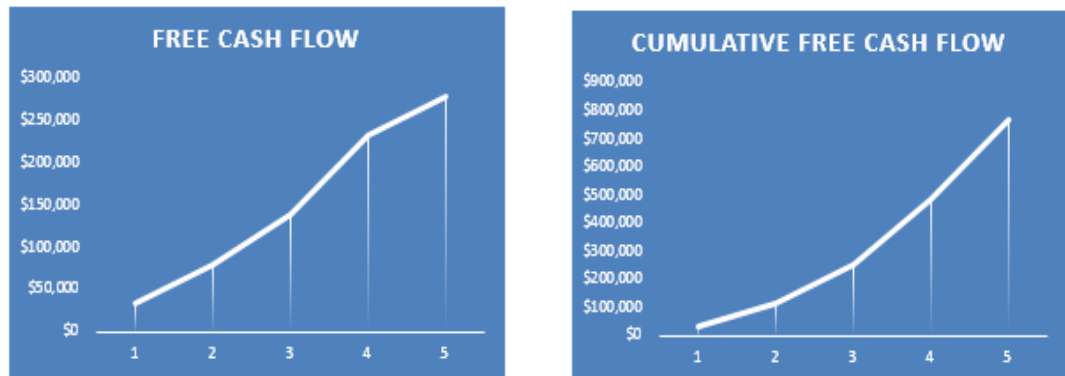
Chapter 6: Free Cash Flow

Table 9

		2018	2019	2020	2021	2022
Cash Returns						
EBIT		\$43,050	\$97,416	\$164,599	\$279,576	\$313,606
Taxes		-\$4,736	-\$10,716	-\$18,106	-\$30,753	-\$34,497
Depreciation		\$2,050	\$3,518	\$5,161	\$6,387	\$6,387
Reinvestments		-\$7,958	-\$10,049	-\$12,419	-\$21,253	-\$6,290
Change in Net Working Capital		\$0	\$0	\$0	\$0	\$0
Total Free Cash Flow		\$32,407	\$80,169	\$139,235	\$233,956	\$279,206
Residual Value						\$989,002
Equity		\$150,000	\$0	\$0	\$0	\$0
EBITDA		\$45,100	\$100,934	\$169,760	\$285,963	\$319,992
Equity Value at Exit	16.8x	\$758,557	\$1,697,650	\$2,855,262	\$4,809,735	\$5,382,094
Cost of Equity		26.77%	26.27%	25.77%	25.27%	24.77%
Present Values of Cash Flows		\$32,407	\$63,492	\$88,029	\$119,025	\$115,224
Sum of Present Values	\$418,176					
PV of Residual Value	\$408,145					
Debt Value	\$0					
Net Business Enterprise Value	\$826,321					

Assumptions		
Cost of Equity (r)	26.77%	
Residual Growth Rate (g)	3.11%	Equivalent to GDP
Cap Rate (r-g)	23.66%	
Equity Value at Exit	16.8x	Equivalent to Market
Yearly Decrease in Country Risk Premium	0.50%	

Graphical Representation 4



Shown above are the graphs representing units in USD (Y axis) wrt to period in years (X axis) .

Chapter 7 :Valuation

Table 10

Intrinsic Valuation	
	\$826,321

Capitalization Table			
Price / Share	\$1,653		
Shareholders	Investment	# of shares	Ownership
Management	50	500	85%
Investor 1	\$150,000	91	15%
	\$150,000	591	
Post-Money Valuation		\$976,321	
Pre-Money Valuation		\$826,321	

VC Returns					
	2018	2019	2020	2021	2022
Exit Year EBITDA	\$45,100.00	\$100,933.80	\$169,759.64	\$285,962.85	\$319,992.43
EBITDA Multiple					17x
Enterprise Value					\$5,439,871.35
Less: Net Debt					0
Total Equity Value					\$5,439,871.35
Investor 1 Ownership					15%
Ownership					0%
Proceeds at Exit					\$835,770.68
Total Proceeds	-\$150,000.00	\$0.00	\$0.00	\$0.00	\$835,770.68

VC Hurdle Rate	
Probability of Success	50%
Cost of Capital	26.8%
VC Hurdle Rate	53.5%
IRR	54%
Cash on Cash (CoC)	5.6x

Table 11

P/E Valuation (\$)					
	2018	2019	2020	2021	2022
Net Income	\$38,315	\$86,700	\$146,493	\$248,823	\$279,109
5x	\$191,573	\$433,500	\$732,464	\$1,244,115	\$1,395,546
10x	\$383,145	\$866,999	\$1,464,928	\$2,488,229	\$2,791,093
15x	\$574,718	\$1,300,499	\$2,197,392	\$3,732,344	\$4,186,639

Revenue Multiples (\$)					
	2018	2019	2020	2021	2022
Revenues	\$82,000	\$183,516	\$273,806	\$408,518	\$457,132
2x	\$164,000	\$367,032	\$547,612	\$817,037	\$914,264
4x	\$328,000	\$734,064	\$1,095,223	\$1,634,073	\$1,828,528
6x	\$492,000	\$1,101,096	\$1,642,835	\$2,451,110	\$2,742,792

EBITDA Multiples (\$)					
	2018	2019	2020	2021	2022
EBITDA	\$45,100	\$100,934	\$169,760	\$285,963	\$319,992
5x	\$225,500	\$504,669	\$848,798	\$1,429,814	\$1,599,962
7x	\$315,700	\$706,537	\$1,188,317	\$2,001,740	\$2,239,947
9x	\$405,900	\$908,404	\$1,527,837	\$2,573,666	\$2,879,932

Chapter 8: Competitive Analysis

Table 12

	VISA	MASTER CARD	AMERICAN EXPRESS	PAYPAL	MARKET	UPPCOIN
Price / Sales	15.2x	15.6x	2.8x	6.3x	4.3x	2.1x
Net profit Margin	38%	31%	9%	14%	12%	61%
EBITDA Multiple	21.8x	24.9x	N/A	33.8x	16.8x	3.1x
BETA	1.04	0.99	0.97	N/A	1.06	1.06

Source : Yahoo Finance as on 02nd May 2018 & Damodaran

Chapter 9: Conclusion & Suggestions

- ❑ As per the calculations, funding amount of \$150,000 is required for the functioning of the firm. Equity of 15% may be provided for the required funding amount.
- ❑ IRR is coming 54% with a post money valuation of \$ 976,321 by 2022
- ❑ Due to limitations of data concerning central eastern European companies in this sector, Expenses currently been taken on the basis of average expenses for Information Services in Western Europe. They can be revised based upon the actuals to get more realistic view.
- ❑ The product is still in the production phase, hence the entire range of features are yet not clear. The model can be revised in later stages so as to represent the product in micro level.
- ❑ The model is currently based only on one country – Hungary as target country but the target region / countries may change / increase based upon the future strategy of the firm.
- ❑ Due to unexpected position of governments towards decentralized based firms, there are significant risks towards the inception and further growth of the firm. Hence, it is advised that the firm should file for patents and regulatory approvals from the target country 's government.
- ❑ As time is key to valuation and eventually the firm's success , it is recommended that atleast MVP of the product to be launched at earliest so as to grab the market opportunity.

References

1. Statista : <https://www.statista.com/outlook/331/139/mobile-pos-payments/hungary#>
2. Damodaran Database :
http://www.stern.nyu.edu/~adamodar/New_Home_Page/data.html
3. Yahoo Finance : <https://finance.yahoo.com/>