

## VALUATION OF AIRTHREAD CONNECTIONS Harvard Case Solution & Analysis

- extremely competitive with technology constantly changing, changes in regulation, and shifts in competitive dynamics, such as, moving towards bundling more services together for their clients.
- Companies in the industry are taking advantage of efficiency, productivity, cost reduction and increased customer base to boost revenues.
- Many analysts have urged that because of the intense competition within the industry there will only be a few very large providers that will stand the test of time.



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Customer Service Department

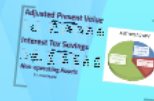
Revenue	1,200,000
Cost of Sales	(800,000)
Operating Profit	400,000
Depreciation	(100,000)
Interest Expense	(50,000)
Income Tax Expense	(150,000)
Net Income	100,000

Free Cash Flows

Year	1	2	3	4	5
FCF	100	120	140	160	180

Market Multiple Approach

Company	Market Cap	FCF	Multiple
AT&T	1,200,000	100	12x
Verizon	1,000,000	80	12.5x
Sprint	800,000	60	13.3x
Nextel	600,000	40	15x
Qualcomm	400,000	20	20x



Possible Synergies

Year	1	2	3	4	5
FCF	100	120	140	160	180
Discount Factor	0.909	0.826	0.751	0.681	0.621
Present Value	90.9	99.1	105.1	109.0	111.8
Total PV	415.9				

Sensitivity Analysis

Variable	Value	NPV
FCF	100	415.9
Discount Rate	10%	415.9
Terminal Value	1,800	415.9

Recommendations

Market Value	1,200,000
FCF	100
Discount Rate	10%
Terminal Value	1,800
NPV	415.9

# Questions??



## SWOT analysis of both American Cable Company and AirThread Connections.

### American Cable Communications (ACC) SWOT analysis.

- Strengths: Offers Internet, land lines, and video. Large company that is operating in the telecommunication service provider that has large barriers to entry.
- Weaknesses: No wireless services.
- Opportunities: Room for growth if the company can bundle more services together to capture a larger market.
- Threats: Falling too far behind other telecommunication providers that are offering bundled services and eventually losing market share. There is much competition in the service providing industries of internet, video, and landline.

### Airthread Connections (ATC) SWOT analysis.

- Strengths: offers wireless services. Strong customer service. Strong network assets. Valuable wireless spectrum license.
- Weaknesses: No landline, internet, or video services. Not able to bundle any services together. Higher customer acquisitions and retention costs, because there is no other services to offer. Slowing growth for the company.
- Opportunities: Room for growth if the company can offer more services to capture a larger market and to reduce.
- Threats: Falling behind other providers that are offering bundled services and losing market share. There is much competition in the service providing industries.

#### PESTEL Analysis

- Political: The risk of change in regulations within the industry. These are not political risks that are directly related to the industry. They are more political risks that are related to the industry.
- Economic: The global market is currently in a recession and this will affect the industry. Customers expect high quality services and this will affect the industry. There is a risk of a recession in the industry and this will affect the industry.
- Social: The industry is currently in a recession and this will affect the industry. Customers expect high quality services and this will affect the industry. There is a risk of a recession in the industry and this will affect the industry.
- Technological: The industry is currently in a recession and this will affect the industry. Customers expect high quality services and this will affect the industry. There is a risk of a recession in the industry and this will affect the industry.
- Environmental: The industry is currently in a recession and this will affect the industry. Customers expect high quality services and this will affect the industry. There is a risk of a recession in the industry and this will affect the industry.
- Legal: There is a risk of a recession in the industry and this will affect the industry. Customers expect high quality services and this will affect the industry. There is a risk of a recession in the industry and this will affect the industry.

# PESTEL Analysis

- **Political:** The main risk is changes in regulations within the industry. There are no real political risks that are involved with political stability, foreign trade policy, tax policy, labour laws, environmental laws, or trade restrictions.
- **Economical:** The global market is relatively stable, so no real problems are in the foreseeable future.
- **Social:** Customers expect high quality service and that many services can be bundled together. There is a trend for people to be connected to their devices, and the use of the internet is becoming an everyday occurrence for virtually every customer that uses the industry.
- **Technological:** All the equipment used by both companies is very expensive, and technology is constantly evolving in the industry.
- **Environmental:** Every market including telecommunications will be under pressure to become a greener company.
- **Legal:** There is little legal risk in the telecommunications industry.

# Reasons for acquisition



- Benefits from being able to offer bundled services of video, internet, landline, and wireless.
- Merging the clients from both companies and adopting the high quality of customer service that A.T.C. provides to their customers.
- A.C.C. has the equity to buy down some of A.T.C. debt that can make the company more profitable.
- Possible synergies between the companies that could cut costs and increase revenues that makes this deal particularly lucrative.

## Proforma Income Statement

	2008	2009	2010	2011	2012
<b>Revenue</b>	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00
<b>Cost of Sales</b>	(400.00)	(400.00)	(400.00)	(400.00)	(400.00)
<b>Gross Profit</b>	600.00	600.00	600.00	600.00	600.00
<b>Operating Expenses</b>	(200.00)	(200.00)	(200.00)	(200.00)	(200.00)
<b>Operating Income</b>	400.00	400.00	400.00	400.00	400.00
<b>Interest Expense</b>	(50.00)	(50.00)	(50.00)	(50.00)	(50.00)
<b>Income Before Tax</b>	350.00	350.00	350.00	350.00	350.00
<b>Tax Expense</b>	(105.00)	(105.00)	(105.00)	(105.00)	(105.00)
<b>Net Income</b>	245.00	245.00	245.00	245.00	245.00

## Net Working Capital

	2008	2009	2010	2011	2012
<b>Accounts Receivable</b>	100.00	100.00	100.00	100.00	100.00
<b>Inventory</b>	100.00	100.00	100.00	100.00	100.00
<b>Accounts Payable</b>	(50.00)	(50.00)	(50.00)	(50.00)	(50.00)
<b>Net Working Capital</b>	150.00	150.00	150.00	150.00	150.00

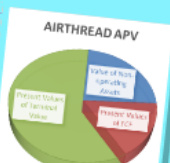
## Free Cash Flows

	2008	2009	2010	2011	2012
<b>EBITDA</b>	\$245.43	\$277.51	\$354.41	\$386.95	\$454.64
<b>Add: Depreciation &amp; Amortization</b>	\$705.23	\$803.96	\$867.44	\$922.38	\$952.91
<b>Subtract: Capital Expenditures</b>	\$651.27	\$719.65	\$867.44	\$970.09	\$1,205.01
<b>Subtract: Net Working Capital</b>	\$20.61	\$19.84	\$19.09	\$17.85	\$18.85
<b>Free Cash Flow (FCF)</b>	\$278.78	\$341.88	\$314.41	\$313.33	\$218.48
<b>Present Value of FCF</b>	\$278.07	\$301.91	\$260.58	\$250.07	\$252.89
<b>PV of Terminal Value</b>	\$4,605.50				
<b>Enterprise Value</b>	\$5,725.42				



## Adjusted Present Value

	2008	2009	2010	2011	2012
<b>FCF</b>	\$278.78	\$341.88	\$314.41	\$313.33	\$218.48
<b>Interest Tax Savings</b>	\$105.00	\$105.00	\$105.00	\$105.00	\$105.00
<b>Total</b>	\$383.78	\$446.88	\$419.41	\$418.33	\$323.48



## Non-operating Assets

	2008	2009	2010	2011	2012
<b>Net Working Capital</b>	\$150.00	\$150.00	\$150.00	\$150.00	\$150.00
<b>Other Assets</b>	\$1,579,630.00				

## Possible Synergies

	2008	2009	2010	2011	2012
<b>Revenue</b>	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00
<b>Cost of Sales</b>	(400.00)	(400.00)	(400.00)	(400.00)	(400.00)
<b>Gross Profit</b>	600.00	600.00	600.00	600.00	600.00
<b>Operating Expenses</b>	(200.00)	(200.00)	(200.00)	(200.00)	(200.00)
<b>Operating Income</b>	400.00	400.00	400.00	400.00	400.00
<b>Interest Expense</b>	(50.00)	(50.00)	(50.00)	(50.00)	(50.00)
<b>Income Before Tax</b>	350.00	350.00	350.00	350.00	350.00
<b>Tax Expense</b>	(105.00)	(105.00)	(105.00)	(105.00)	(105.00)
<b>Net Income</b>	245.00	245.00	245.00	245.00	245.00

## Market Multiple Approach

Market Multiple	
<b>EBITDA<sub>2007</sub></b>	\$1,676.97
<b>Multiple</b>	9.17
<b>Ke</b>	10.06%
<b>NPV</b>	\$9,522.41
<b>Cash &amp; Equivalents</b>	\$204.53
<b>Marketable Securities</b>	\$16.35
<b>Long Term Debt</b>	\$1,002.29
<b>ACT Equity value</b>	\$8,741.01

## Working capital has also changed

	2008	2009	2010	2011	2012
<b>Accounts Receivable</b>	100.00	100.00	100.00	100.00	100.00
<b>Inventory</b>	100.00	100.00	100.00	100.00	100.00
<b>Accounts Payable</b>	(50.00)	(50.00)	(50.00)	(50.00)	(50.00)
<b>Net Working Capital</b>	150.00	150.00	150.00	150.00	150.00

## APV of Synergy

APV of Synergy	
<b>PV of FCF</b>	\$2,395.08
<b>Interest Tax Saving</b>	\$284.78
<b>Enterprise Value with Synergy</b>	\$15,278.25

## Sensitivity Analysis

Growth Rate			Discount Rate		
DCF	APV	Market Multiple	DCF	APV	Market Multiple
Best Case +1%	\$7,302.22	\$6,265.76	\$8,119.95	\$7,044.51	\$6,044.51
Growth Rate	\$5,725.42	\$5,605.46	\$8,741.01	\$8,741.01	\$8,741.01
Worst Case -1%	\$4,192.21	\$4,140.38	\$9,185.65	\$4,192.21	\$4,140.38

## Recommendations

AirThread's Value	
<b>Enterprise value</b>	\$6,564.10
<b>Liquidity Discount</b>	\$760.99





# Proforma Income Statement

Proforma Income Statement								
Year:	2005	2006	2007	2008	2009	2010	2011	2012
Service Revenue	\$2,827.02	\$3,214.41	\$3,679.24	\$4,194.99	\$4,781.54	\$5,379.29	\$5,917.15	\$6,391.95
Plus: Equipment Sales	\$209.74	\$258.75	\$267.09	\$314.57	\$358.62	\$409.44	\$449.79	\$474.85
<b>Total Revenue</b>	<b>\$3,036.77</b>	<b>\$3,473.16</b>	<b>\$3,946.26</b>	<b>\$4,508.90</b>	<b>\$5,140.15</b>	<b>\$5,782.67</b>	<b>\$6,360.94</b>	<b>\$6,806.20</b>
Less: System Operating Expenses	\$604.09	\$639.68	\$717.08	\$838.87	\$956.91	\$1,075.85	\$1,189.49	\$1,266.27
Less: Cost of Equipment Sold	\$511.94	\$568.90	\$640.29	\$755.46	\$861.22	\$968.87	\$1,065.76	\$1,140.96
Less: Selling, General & Administrative	\$1,217.71	\$1,399.56	\$1,555.64	\$1,809.64	\$2,056.15	\$2,319.17	\$2,544.49	\$2,722.60
<b>EBITDA</b>	<b>\$697.02</b>	<b>\$865.01</b>	<b>\$1,039.99</b>	<b>\$1,110.94</b>	<b>\$1,266.47</b>	<b>\$1,424.78</b>	<b>\$1,567.26</b>	<b>\$1,676.97</b>
Less: Depreciation & Amortization	\$490.09	\$555.59	\$582.27	\$705.29	\$809.96	\$867.44	\$922.98	\$952.91
<b>EBIT</b>	<b>\$206.93</b>	<b>\$309.48</b>	<b>\$451.06</b>	<b>\$405.71</b>	<b>\$462.51</b>	<b>\$557.34</b>	<b>\$644.88</b>	<b>\$724.06</b>
Less: Taxes	\$95.86	\$120.60	\$216.71	\$162.29	\$185.00	\$222.94	\$257.95	\$289.62
<b>Net Income</b>	<b>\$154.95</b>	<b>\$179.49</b>	<b>\$314.79</b>	<b>\$249.49</b>	<b>\$277.51</b>	<b>\$334.41</b>	<b>\$386.99</b>	<b>\$434.44</b>

## Net Working Capital

Forecast Net Working Capital						
Year:	2007	2008	2009	2010	2011	2012
Accounts Receivable	\$495.50	\$521.87	\$594.99	\$669.90	\$796.29	\$787.77
Day Sales Equipment Revenue	\$101.00	\$194.88	\$159.77	\$172.99	\$190.29	\$209.61
Prepaid Expenses	\$41.60	\$46.89	\$53.46	\$60.14	\$66.15	\$70.78
<b>Current Assets</b>	<b>\$578.10</b>	<b>\$703.65</b>	<b>\$802.16</b>	<b>\$902.43</b>	<b>\$992.67</b>	<b>\$1,062.16</b>
Deferred Service Revenue	\$149.40	\$163.29	\$186.08	\$209.94	\$290.28	\$246.40
Accounts Payable	\$260.80	\$395.45	\$382.42	\$490.22	\$479.24	\$506.97
Accrued Liabilities	\$59.20	\$64.66	\$79.71	\$82.92	\$91.21	\$97.60
<b>Current Liabilities</b>	<b>\$469.40</b>	<b>\$569.94</b>	<b>\$642.21</b>	<b>\$722.48</b>	<b>\$794.79</b>	<b>\$850.96</b>
<b>Net Working Capital</b>	<b>\$114.70</b>	<b>\$140.91</b>	<b>\$159.95</b>	<b>\$179.94</b>	<b>\$197.94</b>	<b>\$211.79</b>
<b>Changes in Net Working Capital</b>		<b>\$25.61</b>	<b>\$19.64</b>	<b>\$19.99</b>	<b>\$17.99</b>	<b>\$19.86</b>

# Free Cash Flows

Forecast Free Cash Flows					
Year:	2008	2009	2010	2011	2012
<b>NKIPAT</b>	<b>\$249.49</b>	<b>\$277.51</b>	<b>\$394.41</b>	<b>\$986.99</b>	<b>\$494.44</b>
<b>Add: Depreciation &amp; Amortization</b>	<b>\$705.29</b>	<b>\$809.96</b>	<b>\$867.44</b>	<b>\$922.98</b>	<b>\$952.91</b>
<b>Subtract: Capital Expenditures</b>	<b>\$691.27</b>	<b>\$719.65</b>	<b>\$867.44</b>	<b>\$970.09</b>	<b>\$1,055.01</b>
<b>Subtract: Net Working Capital</b>	<b>\$25.61</b>	<b>\$19.64</b>	<b>\$19.99</b>	<b>\$17.99</b>	<b>\$19.86</b>
<b>Free Cash Flow FCF</b>	<b>\$291.78</b>	<b>\$342.18</b>	<b>\$314.41</b>	<b>\$921.22</b>	<b>\$318.48</b>
<b>Present Value of FCF</b>	<b>\$274.07</b>	<b>\$901.91</b>	<b>\$260.58</b>	<b>\$250.07</b>	<b>\$292.89</b>
<b>PV of Terminal Value</b>	<b>\$4,405.90</b>				
<b>Enterprise Value</b>	<b>\$5,725.42</b>				

## Hamada's equation

$$\text{Beta}_L = \text{Beta}_U [1 + (1-T)(D/E)] - \text{Betadebt}(1-T)(D/E)$$

	Beta Calculation									
	Equity	Debt	D/E	Equity	Debt	D/E				
Comparable Companies:	Market Value	Debt Value	D/E	Equity	Debt	D/E				
Universal Mobile	118497.00	60190.00	0.57	0.86	45882.00	11795.00	14040.00	1704.00	0.64	
Redbox Workday	189410.00	79951.00	0.50	0.42	0.89	42884.00	7020.00	14090.00	4102.80	0.71
Apple Communications	21070.00	9280.00	0.49	0.24	1.17	34038.00	16513.22	2914.00	-29.74	1.02
Big Country Communications	26285.00	8115.00	0.34	0.12	0.97	38896.46	6701.86	12814.12	5185.99	0.81
Kellogg-McGraw-Hill	7960.00	3268.00	0.51	0.44	1.15	4065.52	5100.00	1028.48	290.75	0.89
Average			0.28	0.40	1.00					1.01
Beta Leverage for TV			0.71	0.40						

## CAPM equation

$$r_i = r_{RF} + \text{Beta}_i [r_M - r_{RF}]$$

Risk-Free Rate		Risk-Free Rate	
Risk-Free Rate	4.25%	Risk-Free Rate	4.25%
Market Risk Premium	5.00%	Market Risk Premium	5.00%
Asset $\beta$	1.16	Asset $\beta$	1.01
$K_e$	10.06%	$K_e$	9.51%

## WACC equation

$$\text{WACC} = w_d r_d (1-T) + w_p r_{ps} + w_s r_s + w_e r_e$$

WACC for FCF		WACC for TV	
Wd	33.56%	Wd	40.00%
Rd after tax	5.50%	Rd	5.50%
Wp	88.64%	Wp	60.00%
Rp	10.00%	Rp	9.51%
WACC	6.40%	WACC	6.90%