Brian Waterhouse
UNI: BPW2109
Value Investing with Legends
Final Project
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Company: CDK Global, Inc. (NASDAQ: CDK)
Recommendation: Long CDK Global

Thesis Overview:

CDK was spun from ADP in September 2014 at $30/share. CDK was an unloved and irrelevant unit within ADP, representing 16% of revenues and 15% of EBIT. CDK is a tremendously robust and free cash flow generative business. Upside in CDK's shares will be driven by three main drivers:

1) Significant margin expansion resulting from obvious cost cutting and natural margin expansion
2) Topline growth driven by secular tailwinds from underinvestment / increased shift of spend towards digital marketing
3) Substantial free cash flow generation that can be used to repurchase stock – with activist investors onboard to keep management focused and motivated

CDK will compound at outstanding rates for years to come with a mid-teens ROIC and an absurdly stable business model with outstanding pricing power.

Business Overview:

Founded in 1972, CDK provides information technology and digital marketing / advertising solutions to the automotive retail industry. CDK has perfected the art of selling technology to luddites. CDK acts as the operating system that runs auto dealerships – sold as a dealer management system ("DMS"). Given their integral spot within an auto dealership's operations CDK has an incredibly low churn rate with a retention rate of ~95% with a customer lifecycle of 20+ years. CDK sells their software via rolling 3-5 year licenses (with annual pricing escalators). In addition to their software, CDK sells equipment to auto dealerships (servers, storage, etc.) and volume based products like financings requests or VIN registrations. DMS spend is only 2% to 5% of total dealership expenses – so while integral to operations it is not so high as to cap potential pricing increases. The technology that backs this software has remained relatively stagnant for decades – some programs still run on a DOS like interface. Literally every dollar that flows into a dealership is tracked on the DMS, and auto dealerships cannot operate without their DMS, even if the DMS malfunctions the dealership ceases to run. CDK serves 26,000 retail locations and automotive manufacturers in approximately 100 countries.

CDK operates as part of a duopoly with their nearest competitor Reynolds & Reynolds ("REY"). CDK has ~40% market share and REY has ~30% market share. REY was acquired by UCS in 2006 for $2.8B or ~20x EV/ trailing EBITDA and 29x EV/trailing FCF.

CDK divides their operations into three business segments:

1) Automotive Retail Solutions North America ("ARSNA")
2) Automotive Retail Solutions International ("ARSNI")
3) Digital Marketing (this business was predominately created via the acquisition of Cobalt in 2010)

For a breakout of the business segments along with my forward projections please reference Exhibit 1in the appendix. CDK has a remarkably resilient business – during the global economic downturn, CDK's organic ARSNA revenue declined by 4% while U.S. car sales (SAAR) declined 21% and 760 dealerships closed (a 3.6% decline in dealerships nationally). AutoNation tried to disintermediate CDK's DMS in 2008 by partnering with Microsoft. Microsoft spent a few years working on this and finally gave up. AutoNation is now a CDK customer again. Sonic Automotive tried something similar a few years earlier with DealerTrack to no avail. DMSs require significant training to use proficiently (similar to Bloomberg or Practical Law). This training makes DMSs substantially harder to disintermediate and results in the aforementioned low switching costs.

<u>CDK vs. REY</u>:
Both CDK and REY are great businesses that are ingrained into the ecosystem. CDK and REY are identical businesses, but CDK is twice as large as REY. CDK is exhibiting dis-economies of scale, as a software company CDK 2x the revenue does not require 2x the employees. As can be seen in Exhibit 2, REY's margins are significantly higher than CDK's.

To ferret out any possible differences I reached out to REY's former CEO and CFO to ask them why such a disparity exists. They both uniformly said no such difference should exist and that they felt CDK would rapidly close the margin gap with REY. The quotes below best exhibit this:

"**There is no reason why CDK can't get to north of 30% EBIT margins**. REY could have easily boosted its EBIT margins: if they would have shut down their generations series (upgrade to software) it would have added 3%-5% to the EBIT margin and then their web products which they were giving away for free so it was a total cost center, this would have added another 3% - 5%. **Without trying you could have boosted margins by 10% out of the gate to nearly 30%** - and this is before even addressing overstaffing. UCS did all this post buyout and look at the margins now." – **Former REY CEO**

"If I were in charge of CDK I would establish the goal of improving margins by 15%-17% over three years. **CDK should have EBITDA margins in the 45% to 47% range**. When REY was bought by UCS REY Q4'06 normalized EBITDA margins of 20% and this was improved to 53% by calendar 2011. To increase margins **REY eliminated the buffer between senior decision makers and front line workers – boosting margins by 580bps in 18 months**. Then headcount was reduced as **R&D was rationalized going from 800 to 420 people this increased margins another 550bps**. A year ago **REY had 340 developers compared to CDK's 1,400**. CDK has so much room to cut, a lot of low hanging fruit." **– Former REY CFO**

<u>Thesis Point #1 - Margin Expansion:</u>
As mentioned by my primary research contact points, CDK has significant low-hanging fruit to expand their margins. CDK has recognized this fact and has hired a consultant to help assess areas for additional cost cuts – additional color is expected at their June investor day. CDK will focus on three main areas to expand margins:

1) Removal of excess front office mid-level employees - this will likely add 300bps to 600bps to CDK's margins
2) Streamlining of R&D – trimming the Cobalt fat – this will likely add 250bps to 550bps to CDK's margins
3) Changing of the guard, rotating from older higher cost employees to young and hungry salespeople – this will likely add 500bps to 1,700 bps to CDK's margins

CDK has 9,000+ employees and a large proportion are labor related to software development. On LinkedIn CDK has 455 employees listed with the title of Vice President or Director versus 170 at REY, further, LinkedIn lists 578 CDK engineers versus 122 for REY. A mere 10% reduction in headcount at

$100,000/year would boost EBIT margins by 5% and save CDK $90M or $0.57/share annually. Headcount will likely be cut more and salaries are likely higher than $100k, implying potentially greater savings.

In CDK's international business they are still in the ramp phase – which has been somewhat stymied given the recession in Europe. International has 14% EBIT margins (nearly half what they are earning in North America – there is no structural reason for such a discrepancy). As volumes rebound ARSNI margins will move up dramatically.

CDK's digital margins segment is significantly under-earning with a 7% EBIT margin. Normal digital marketing businesses like DealerTrack earn EBIT margins in the 18% to 20% range. When speaking with REY's former CFO he said that CDK's digital marketing business should have EBIT margins in the 20% range. CDK's digital marketing business should out-earn their competitors given their OEM exclusivity (i.e. Ford will say to all its auto dealers that CDK is the official website / marketing tool). As a result of this OEM exclusivity CDK controls a huge swatch of data, as they build out apps on dealer data and tie it into the dealer ERP system (tying it into the quote) it would command a much higher margin (for frame of reference REY had a 55% EBIT margin with their service price guide product which was solely used to help improve pricing based on dealer quotes and web scraping).

Management has publicly stated that they can easily deliver 100bps of margin expansion annually. CDK's management is likely drastically under-promising as their equity was being struck around the time of the spin so they are economically incented to under-promise and over-deliver. On the Q1'15 and Q2'15 earnings call CDK's management made it clear that margin expansion was a priority:
"**I want to assure you that margin expansion is and will continue to be a priority for us in this organization**." - **Steven J. Anenen, CEO**

"**We are engaging an outside consulting organization** to work with us in analyzing all aspects of our business **to understand how we can meaningfully improve**." - **Steven J. Anenen, CEO**

To further support my thesis I reached out to a number of industry participants, experts, and former CDK employees – this is what they had to say:
"**I tried to buy the business from ADP prior to the spin**. I worked to put together a syndicate and ADP wouldn't sell since they knew it was undervalued. **So I bought a bunch of the shares in CDK** when they started trading. **I think it is so easy for CDK to rapidly increase margins – they will be able to get to 40%** with ease. They will win some folks from REY defectors like they have historically but the industry is so sticky that they are more likely to benefit from scaling revenues and cutting headcount. I think it's a no brainer." – **Former CDK Employee**

"**CDK will be able to easily cut costs**. There is a huge portion of the salesforce that is around 55+ years old, makes a hefty six figure salary, and is reasonably superfluous. **Management will start cutting the fat as they work to substantially reduce the employee base** – the head of Cobalt retired post spin solely for this reason. The **mentality at CDK has changed since being public and folks now actually care about returns** and financial metrics – pre-spin it was la-la land where no one really was incented to achieve high returns since it was hidden in ADP." **– Former CDK Employee**

"Both REY and CDK are hard to use but CDK is more user friendly. **CDK is way more advanced in their digital offerings then REY** is. I have used CDK for 20+ years and wouldn't think of switching. CDK is a great business. On the DMS side **CDK is way overstaffed; I have multiple relationship managers, which**

is unneeded; these are all $150k/year guys who are all in their late 50s – they are just milking it. If CDK gets serious about increasing margins they will remove the duplication to just one $50k/year employee to manage the relationship." – **Auto Dealer**
Aside from the areas above, CDK will also expand margins by simply eliminating the pricing discount they have to REY. Despite having leading market share and a superior product, CDK continues to sell at 10%-20% discount to REY (on average). Simply increasing prices 5% per year over 4 years would eliminate the pricing gap – nearly all of this pricing improvement would fall to the bottom line.

<u>Thesis Point #2 – Significant Topline Growth Opportunity:</u>
As can be seen in Exhibit 3, total advertising outlay by auto dealers continues to rebound, with internet now accounting for 33% of total spend – it is expected to grow nicely over the next couple years. The recession resulted in underinvestment in dealer information services systems. Continued consolidation in the North American dealer segment will result in more dealers switching over to enterprise grade solutions like CDK (CDK has 7 of the largest 10 dealers in the U.S.). Emerging market countries will continue to grow; new vehicle sales in China in 2014 are expected to be 8.9% higher than in 2013, according to HIS. According to a 2013 Polk Automotive Buyer Influence Study, automotive retailers allocated 27% of their advertising spend to digital media while 75% of automotive buyers utilized digital media in their vehicle research.

CDK has been and will continue to grow topline by winning market share from REY. Post buyout REY underinvested in its platform resulting in customer defections, CDK has taken market share from REY, but given the 5-year rolling contracts customer wins are slow. To see how badly REY is lagging CDK please reference Exhibit 4, which shows a screen shot of REY's and CDK's respective products. The quotes below further support this case:

"**In 2012 REY lost 250-275 dealers on a net basis – of these 175 migrated to CDK**. In terms of pricing; REY's prices can be as much as 20% higher than CDK's." **– Former REY CFO**

"**Working at REY is pretty much how I envision Azkaban**. REY, in recent years, has put a ton of emphasis on marketing and sales at the expense of product development and support. In short, **they lie to customers to sell a product that does not function as advertised while not providing the technical support team** with enough manpower or documentation **to adequately assist the customer**." - **Former REY Employee**

"**The owner and president are so out of touch with what the market is doing** and they cannot understand that **their image in the marketplace is horrible** and preventing business increases for the company." – **Former REY Employee**

<u>Thesis Point #3 – Substantial Free Cash Flow Generation and Optimal Capital Allocation:</u>
CDK generates substantial free cash flow each year – in the past three years this has averaged ~ $200M per year. Management has committed to maintaining a Debt/EBITDA ratio of at a minimum 2x (REY at the extreme is closer to 8x). As Exhibit 5 shows, as CDK grows its free cash flow it will be able to take on an additional ~ $1B in debt to repurchase shares. Management will use excess FCF to repurchase stock – they already initiated a $0.48/share annual dividend and on January 21st announced a 10M share stock buyback program (expires on 1/19/2018). On the Q2'15 earnings call the CEO went on the record saying, "We also recognize that we have excess cash on our balance sheet, and we are considering additional ways to redeploy that capital." In my model I assume that 60% of FCF goes to repurchases (at prices that rise 10% annually).

Valuation:
Currently CDK trades at 10.7x 2019 FYE (CDK has a June 30th fiscal year end) free cash flow, an absurdly low number for this caliber of business. As management executes and jumps over the one foot hurdles ahead of it they will rapidly grow free cash flow and earnings and be able to repurchase substantial amounts of stock (36% of the current market cap by 2018 FYE by my math). CDK should earn $4.58 in 2019 free cash flow and should be able to trade at 17.5x free cash flow. I use a discount to this price – representing a triangulation of valuation methodologies – see Exhibit 6. My price target is $75 for a return of 52%. To see the scenario valuation analysis that supplements this please reference Exhibit 7. For a full output of financials please see Exhibit 8. CDK will be able to compound for years to come beyond 2019 as it has embedded pricing escalators.

It is also worth mentioning that there is embedded upside beyond my $75 price target. The DMS industry is in the process of updating its technology and will eventually convert to a SaaS model. CDK has additional upside via its eventual SaaS conversion (discussions with industry professionals and dealers lead me to believe that this will eventually happen but is not likely anytime soon). The math in Exhibit 9 illustrates how an eventual SaaS conversion will boost CDK's topline which will then trickle down to resultantly higher margins – this should be viewed as additional upside optionality. The SaaS transition will be beneficial as revenue expands, margins increase, and multiples expand. There is substantial precedence for this – see Adobe and their recent conversion to SaaS.

Risks & Mitigants:
For CDK there are three main broad categories of risks. First folks are nervous that CDK's management will fail to expand margins. CDK's margins will start to naturally expand as Digital Marketing & Automotive Retail Solutions International grows topline coupled management aggressively cutting costs (headcount, corporate waste, etc.). REY gave CDK an easy playbook, CDK is already executing with 170bps improvement YoY in Q1'15 and in Q2'15 they increased margins 300bps YoY. Additionally, the market assigning a paltry amount of margin improvement of 205bps (see Exhibit 10), which is substantially below reality, in Q2'15 CDK's management increased margins by 300bps YoY – indicating how easy it will be for CDK to increase margins (this is 1.5x what the market is baking in). Second, folks are worried that CDK's management is not aggressive or is a poor capital allocator. Luckily for shareholders, both Sachem Head Capital Management (a Pershing Square spin) with a 9.8% stake and Fir Tree Partners with an 8.8% stake have recognized CDK's value. Having two activists with meaningful positions will help ensure that management behaves properly and aggressively expands margins. Additionally – CDK is a ripe target for Private Equity funds as they can leverage them far beyond 2x (REY is 8x). Finally, folks are worried that dealership consolidation could hurt CDK. With 7 of the top 10 dealerships in the U.S. CDK will benefit from dealer consolidation as larger dealer groups consolidate the industry and merge acquired branches onto the dominant DMS – CDK.

Summary:
CDK has an easy path to significant upside via simple margin improvement. Beyond this there is substantial upside optionality as the industry moves towards a cloud hosted SaaS model. You can purchase CDK for 10.7x 2019 FYE FCF. Your downside is protected by activist shareholders and highly interested private equity buyers. Additionally there are substantial tailwinds at management's back (eventual recovery in Europe, growth of Asian market, increased migration of digital spend in the auto sector, dealer consolidation in the U.S., etc.). CDK offers the rare chance to purchase a business that is both good at a cheap multiple. As Joel Greenblatt often says, "Why buy cheap when you can buy cheap and good?"

Appendix:

Exhibit 1: Segment Financials

Revenue	**2012**	**2013**	**2014**	**2015E**	**2016E**	**2017E**	**2018E**
Automotive Retail Solutions North America	1,115	1,207	1,268	1,345	1,427	1,514	1,606
Automotive Retail Solutions International	303	315	325	338	351	365	380
Digital Marketing	263	310	373	442	512	580	658

EBIT	**2012**	**2013**	**2014**	**2015E**	**2016E**	**2017E**	**2018E**
Automotive Retail Solutions North America	265	313	352	403	471	545	626
Automotive Retail Solutions International	18	33	45	61	77	95	106
Digital Marketing	13	27	26	31	61	87	118

EBIT Margins	**2012**	**2013**	**2014**	**2015E**	**2016E**	**2017E**	**2018E**
Automotive Retail Solutions North America	24%	26%	28%	30%	33%	36%	39%
Automotive Retail Solutions International	6%	10%	14%	18%	22%	26%	28%
Digital Marketing	5%	9%	7%	7%	12%	15%	18%

Source: SEC Filings

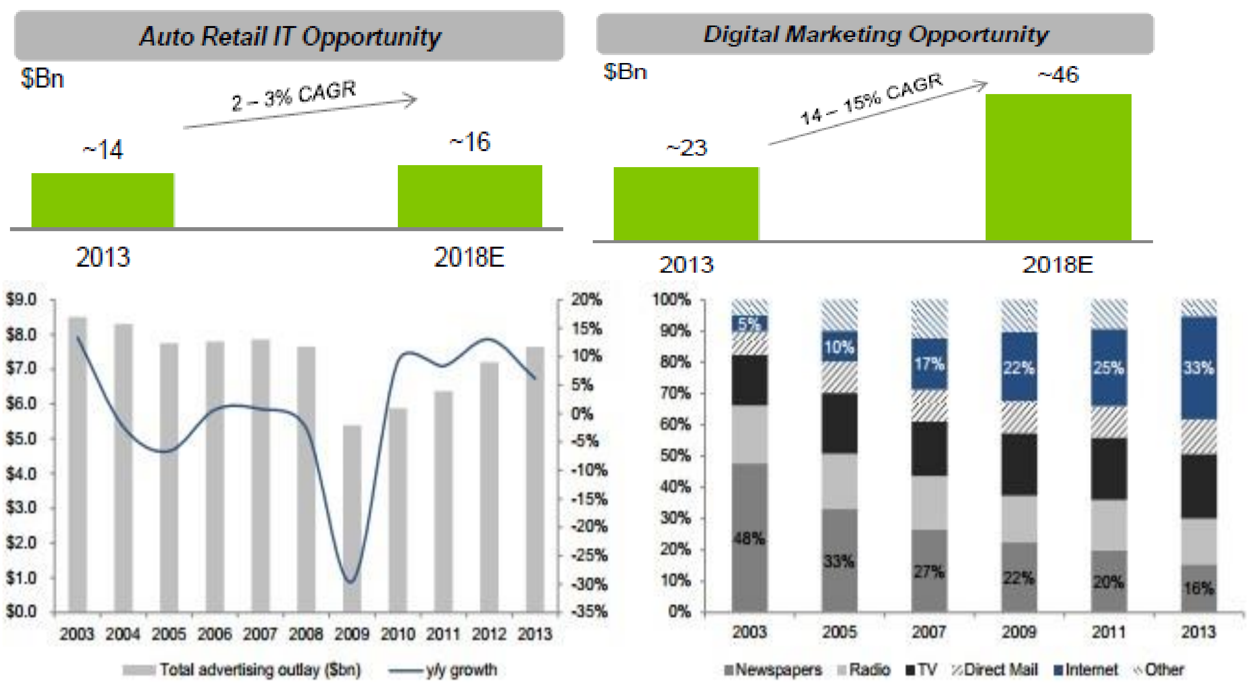
Exhibit 2: CDK vs. REY Financials

	Pre- Buyout Financial Profile						Post Buyout
					9 months YTD as of 6/30		
Reynolds & Reynolds	**2002**	**2003**	**2004**	**2005**	**2005**	**2006**	**2013**
Revenue	992,383	1,008,245	982,241	969,080	736,462	737,566	1,004,000
EBIT	161,253	175,638	143,978	45,356	110,282	117,585	
EBIT Margin	16%	17%	15%	5%	15%	16%	
D&A	31,395	36,237	48,393	116,062	36,059	22,255	
EBITDA	192,648	211,875	192,371	161,418	146,341	139,840	519,068
EBITDA Margin	19%	21%	20%	17%	20%	19%	52%

CDK's EBITDA margins were 20.5% in 2013 and 22% in the LTM period or nearly a 30% difference from REY

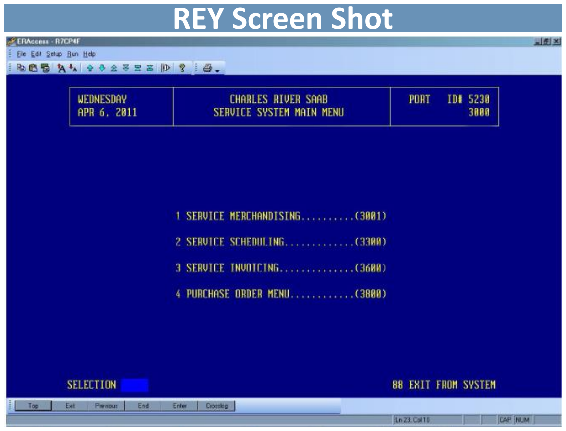
Source: SEC Filings

Exhibit 3: CDK's Topline Growth Opportunity



Source: NADA, eMarketer, IHS, ICDP, Urban Science, CDK Global analysis, and Evercore Group LLC Research

Exhibit 4: Product Screen Shots



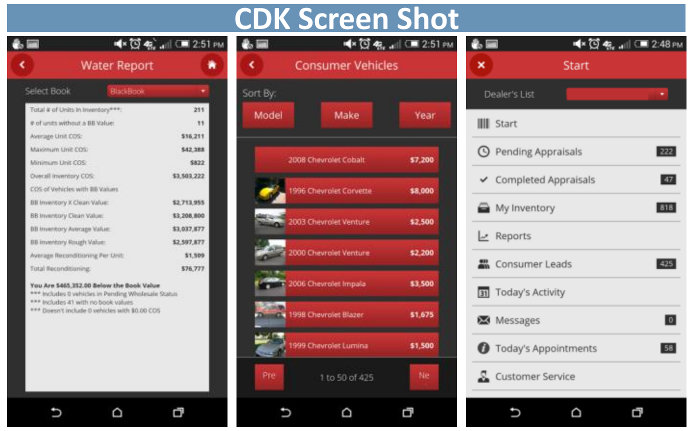


Exhibit 5: Substantial Dry Power from FCF and Borrowing Capacity

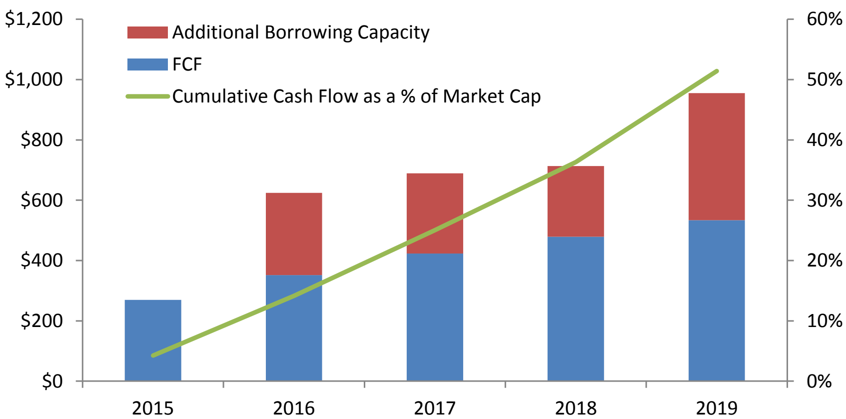


Exhibit 6: Valuation Analysis

CDK Global

Multiple-Based Valuation

FCF Based Valuation

	Bear	Base	Bull
2019E FCF - BPW - Base Case	$3.48	$4.58	$6.17
Normalized Forward Multiple	15.0x	17.5x	20.0x
2015E Value/Share	**$52.22**	**$80.13**	**$123.43**
Upside to Current Price	*6%*	*63%*	*151%*
IRR	*3%*	*24%*	*51%*

NOPAT Based Valuation

	Bear	Base	Bull
2019E NOPAT - BPW	456	559	685
Normalized Forward Multiple	15.0x	17.5x	20.0x
TEV	**6,835**	**9,785**	**13,705**
Less: Net Debt	946	1,122	1,333
Equity Value	**7,781**	**10,907**	**15,038**
Shares	157	157	157
Value/Share	**$49.59**	**$69.51**	**$95.84**
Upside to Current Price	*1%*	*41%*	*95%*
IRR	*0%*	*17%*	*35%*

Using a range of valuation methods and metrics, coupled with annual dividends, I triangulate around ~$75 per share

DCF Analysis

TEV	9,069
Less: Debt	-1,000
Plus: Cash	355
Total Equity Value	**8,425**
Current Shares	157
Share Reduction by 2017	-23
Net Shares	134
Value/Share	**$62.99**

VALUE/SHARE SENSITIVITY

		Terminal Multiple		
		15.0x	17.50x	20.0x
	5.0%	$57.87	$66.06	$74.25
Discount Rate	6.0%	$55.18	$62.99	$70.80
	7.0%	$52.64	$60.09	$67.55

Exhibit 7: Scenario Valuation Analysis

CDK

Base Case Scenario	CASE
(note $ in millions)	Current
Per Share	$49.19
Market Cap	$7,718
Enterprise Value	$8,363
Cash	355
Debt	1,000
Common Shares	157

	2015	2016	2017	2018
Expected Value	$28.57	$41.30	$54.95	$71.69
Upside	-41.9%	-16.0%	11.7%	45.7%

		BEAR				BASE				BULL			
	Current	2015	2016	2017	2018	2015	2016	2017	2018	2015	2016	2017	2018
Revenue		$2,059	$2,150	$2,235	$2,325	$2,125	$2,290	$2,459	$2,643	$2,191	$2,437	$2,703	$3,002
EPS Growth		-7.1%	38.2%	25.0%	21.6%	4.3%	41.8%	30.2%	27.4%	16.5%	46.3%	36.1%	34.3%
FCFE (inc. working capital) ($)		$244	$317	$373	$407	$269	$351	$424	$479	$296	$390	$482	$563
FCFE Yield (Current Market Cap)		3%	4%	5%	5%	3%	5%	5%	6%	4%	5%	6%	7%
FCFF ($)		219	288	338	368	244	319	383	431	271	353	435	507
FCFF Yield (Current EV)		3%	3%	4%	4%	3%	4%	5%	5%	3%	4%	5%	6%
1 Year Forward PE (PF)	26.0x	15.0x	15.0x	15.0x	15.0x	17.5x	17.5x	17.5x	17.5x	20.0x	20.0x	20.0x	20.0x
Earnings		$1.32	$1.82	$2.27	$2.76	$1.48	$2.09	$2.72	$3.47	$1.65	$2.41	$3.28	$4.41
Accumulated Cash		$1.26	$1.59	$2.16	$2.90	$1.33	$1.81	$2.60	$3.70	$1.40	$2.05	$3.13	$4.73
Implied Price (Incl. Cash)		$20.99	$28.87	$36.25	$44.37	$27.16	$38.43	$50.27	$64.42	$34.39	$50.31	$68.80	$92.89
Upside/ Downside		-57.3%	-41.3%	-26.3%	-9.8%	-44.8%	-21.9%	2.2%	31.0%	-30.1%	2.3%	39.9%	88.8%
Accumulated Dividends		$0.48	$0.96	$1.44	$1.92	$0.48	$0.96	$1.44	$1.92	$0.48	$0.96	$1.44	$1.92
Implied Price (with Dividends)		$20.21	$28.23	$35.53	$43.39	$26.31	$37.58	$49.11	$62.64	$33.48	$49.22	$67.11	$90.08
Upside/ Downside (with Dividends)		-58.9%	-42.6%	-27.8%	-11.8%	-46.5%	-23.6%	-0.2%	27.3%	-31.9%	0.1%	36.4%	83.1%
Implied Market Cap		3,171	4,430	5,575	6,808	4,129	5,897	7,706	9,829	5,253	7,723	10,530	14,135
Implied Enterprise Value		2,508	3,672	4,691	5,862	3,476	5,042	6,688	8,707	4,611	6,759	9,358	12,801
Implied EV/EBITDA		5.8x	6.5x	7.1x	8.0x	7.4x	8.1x	8.9x	10.1x	9.0x	9.8x	10.9x	12.6x
Implied FCFE		8%	7%	7%	6%	7%	6%	5%	5%	6%	5%	5%	4%
PROBABILITY		10%	10%	10%	10%	50%	50%	50%	50%	40%	40%	40%	40%
EXPECTED VALUE		$2.02	$2.82	$3.55	$4.34	$13.16	$18.79	$24.55	$31.32	$13.39	$19.69	$26.84	$36.03
100%													

Exhibit 9: Financials Output

Scenario Financials	**Base Case Scenario**							
Income Statement:	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Automotive Retail Solutions North America	$1,115	$1,207	$1,268	$1,345	$1,427	$1,514	$1,606	$1,704
Automotive Retail Solutions International	$303	$315	$325	$338	$351	$365	$380	$395
Digital Marketing	$263	$310	$373	$442	$512	$580	$658	$731
Foreign Exchange	$15	$7	$8	$0	$0	$0	$0	$0
Total Revenue	$1,696	$1,839	$1,974	$2,125	$2,290	$2,459	$2,643	$2,830
COGS	($1,022)	($1,103)	($1,202)	($1,285)	($1,386)	($1,488)	($1,599)	($1,712)
Gross Profit	$675	$737	$772	$839	$905	$971	$1,044	$1,118
Total Operating Expenses	($424)	($423)	($429)	($445)	($365)	($314)	($263)	($230)
EBIT	$251	$314	$343	$394	$540	$657	$781	$887
% margin	*15%*	*17%*	*17%*	*19%*	*24%*	*27%*	*30%*	*31%*
Automotive Retail Solutions North America	$265	$313	$352	$403	$471	$545	$626	$681
% margin	*24%*	*26%*	*28%*	*30%*	*33%*	*36%*	*39%*	*40%*
Automotive Retail Solutions International	$18	$33	$45	$61	$77	$95	$106	$122
% margin	*6%*	*10%*	*14%*	*18%*	*22%*	*26%*	*28%*	*31%*
Digital Marketing	$13	$27	$26	$31	$61	$87	$118	$154
% margin	*5%*	*9%*	*7%*	*7%*	*12%*	*15%*	*18%*	*21%*
EBITDA	$311	$377	$411	$469	$624	$751	$862	$972
% margin	*18%*	*21%*	*21%*	*22%*	*27%*	*31%*	*33%*	*34%*
Interest expense, net	($1)	($1)	($1)	($38)	($52)	($64)	($75)	($95)
Taxes (Benefit)	$92	$115	$117	$125	$181	$219	$261	$293
Other Items	($3)	($2)	($1)	$0	$0	$0	$0	$0
Net Income	$161	$199	$227	$232	$307	$373	$445	$499
Adj EPS	$1.00	$1.24	$1.42	$1.48	$2.09	$2.72	$3.47	$4.28
Avg Dil Shares	160	160	160	157	147	137	128	117

Scenario Financials — **Base Case Scenario**

Balance Sheet:	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Cash and cash equivalents	$276	$403	$335	$392	$484	$601	$559
Accounts receivable	$263	$299	$322	$347	$373	$401	$429
Notes Receivable	$35	$41	$44	$47	$51	$54	$58
Other Current Assets	$199	$165	$177	$191	$205	$220	$236
Total Current Assets	$774	$907	$878	$978	$1,112	$1,276	$1,282
Net PP&E	$93	$110	$127	$135	$134	$148	$159
Other LT Assets	$1,561	$1,570	$1,558	$1,551	$1,550	$1,554	$1,562
Total Assets	$2,427	$2,587	$2,562	$2,664	$2,796	$2,978	$3,003
Accounts Payable	$16	$17	$18	$20	$21	$23	$25
Short-term Debt	$22	$22	$988	$1,248	$1,501	$1,723	$1,945
Other Current Liabilities	$491	$1,280	$489	$528	$566	$609	$652
Total Current Liabilities	$529	$1,319	$1,495	$1,795	$2,089	$2,355	$2,621
Long-term Liabilities	$361	$303	$326	$352	$378	$406	$435
Total Liabilities	$891	$1,622	$1,822	$2,147	$2,467	$2,761	$3,056
S.E. & Non-Controlling Interest	$1,537	$965	$741	$516	$329	$217	($53)

Scenario Financials — **Base Case Scenario**

Statement of Cash Flows:	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Net Income	$161	$199	$227	$232	$307	$373	$445	$499
D&A	$60	$64	$68	$75	$84	$94	$81	$85
Other Cash from Operations	$35	$22	$15	$21	$23	$25	$26	$28
Changes in Working Capital	($27)	($22)	($51)	$5	$5	$6	$6	$6
Cash from Operation	$228	$263	$258	$333	$420	$497	$558	$619
Capital Expenditures	($41)	($44)	($57)	($64)	($69)	($74)	($79)	($85)
CapEx (as a % of Revenue)	-2.4%	-2.4%	-2.9%	-3.0%	-3.0%	-3.0%	-3.0%	-3.0%
Cash flow from Investing	($310)	($195)	($131)	($305)	($69)	($74)	($79)	($85)
Net Borrowings	($1)	($2)	($1)	$966	$260	$253	$222	$221
Dividend Payment	$0	$0	$0	($75)	($71)	($66)	($62)	($56)
Stock Buybacks	$0	$0	$0	($161)	($484)	($520)	($522)	($741)
Other	$4	($10)	($3)	($825)	$0	$0	$0	$0
Cash flow from Financing	$3	($12)	($4)	($96)	($294)	($332)	($361)	($576)
Beginning Cash	$318	$183	$192	$261	$129	$118	$136	$174
Cash Generated	($120)	$12	$67	($132)	($11)	$17	$38	($127)
FX	($15)	($3)	$3	$0	$0	$0	$0	$0
Ending Cash	$183	$192	$261	$129	$118	$136	$174	$46
Operating Cash Flow	$228	$263	$258	$333	$420	$497	$558	$619
CapEx	($41)	($44)	($57)	($64)	($69)	($74)	($79)	($85)
FCF	$187	$219	$201	$269	$351	$424	$479	$534
FCF % of Revenue	11.0%	11.9%	10.2%	12.7%	15.3%	17.2%	18.1%	18.9%

Exhibit 9: SaaS Conversion

CDK Transition from License to SaaS						
($ in thousands)	Average Life of Contract					
	Year 1	Year 2	Year 3	Year 4	Year 5	Total
(1) License	$200					$200
(2) Maintenance	$50	$52	$53	$55	$56	$265
Growth		*3.0%*	*3.0%*	*3.0%*	*3.0%*	
License Model	$250	$52	$53	$55	$56	$465
Deferred License	$70	$72	$74	$76	$79	$372
Growth		*3.0%*	*3.0%*	*3.0%*	*3.0%*	
Maintenance	$50	$52	$53	$55	$56	$265
Growth		*3.0%*	*3.0%*	*3.0%*	*3.0%*	
(3) Subscription Model	$120	$124	$127	$131	$135	$637
Absolute Change %	-52.0%	140.0%	140.0%	140.0%	140.0%	36.9%

Notes:

(1) Assumes $200k upfront license fee for 1 dealership

(2) $50k annual maintenance increasing at 3% annually

(3) SaaS model changes to $10k monthly from ~ $4k

License NPV	$350.43
Subscription NPV	$423.64
% Accretion	**20.89%**
Discount Rate	*15%*

Exhibit 10: Market Implied Annual Margin Improvement

Current Price Implied Results	
Current Stock Price	$49.19
Shares Outstanding	157
Market Value	$7,718
Assumed 2018 P/E	17.5x
Implied 2018 EPS	$2.81
Assumed Revenue CAGR	7%
Implied Revenue	$2,587
Implied EBIT Margin	26%
2014 EBIT Margin	17%
Implied Total Improvement	819 bps
Implied Annual Improvement	205 bps