

# Fundamental

## Research Corp.

Investment Analysis for Intelligent Investors

August 25, 2017

### Shoal Games Ltd. (TSXV: SGW / OTCQB: SGLDF) – Ramping up Marketing for Rooplay

Sector/Industry: Mobile Games

www.shoalgames.com

#### Market Data (as of August 25, 2017)

Current Price	C\$0.61
Fair Value	C\$1.77
Rating*	BUY
Risk*	5 (Highly Spec)
52 Week Range	C\$0.39 – C\$0.65
Shares O/S	62,032,097
Market Cap	C\$37.84 mm
Current Yield	N/A
P/E (forward)	N/A
P/B	N/A
YoY Return	-6.2%
YoY TSXV	-4.5%

\*see back of report for rating and risk definitions

\*All the figures are in US\$ unless otherwise specified.



#### Highlights

- Rooplay was launched on the Android platform in May 2017. Rooplay is a game / educational platform primarily targeting kids aged 2 to 10 years. The platform currently offers over 500 titles.
- Ambient Research estimates the game based learning market will grow from \$2.7 billion in 2016, to \$7.3 billion by 2021, reflecting a 22% p.a. growth rate.
- Since our previous report in May 2017, the company launched 10 new original (proprietary) games featuring Garfield.
- The company also obtained licenses to use characters of two highly popular comic books, namely ‘Moomin’ and ‘Mr. Men and Little Miss’. Shoal is currently developing games based on characters from these brands.
- Shoal started ramping up marketing expenses in Q2-2017 with the launch of Rooplay. In Q2-2017, the company spent \$51k in selling and marketing, versus just \$9k in Q4-2016.
- In Q2, Shoal closed a C\$1.05 million private placement by issuing 2.32 million units at a unit price of C\$0.45.

#### Key Financial Data (FYE - Dec 31)

(US\$)	2015	2016	2017E	2018E
Cash	570,086	60,190	165,651	152,018
Working Capital	454,447	13,896	(18,747)	123,788
Total Assets	1,129,526	129,093	196,548	542,945
LT Debt to Capital	0.0%	928.0%	14662.1%	375.6%
Revenues	111,610	278,921	251,213	5,173,400
Net Income	(2,965,682)	(3,156,302)	(1,819,460)	(857,901)
EPS	-0.05	-0.05	-0.03	-0.01

*Rooplay launched on Android in May*

Rooplay was launched on the Android platform in May 2017. Management indicated to us that, as of August 24, 2017, Rooplay, and the Rooplay originals have generated over 120,000 downloads. As all of Shoal's games are supported in web browsers, the company is launching a full version of Rooplay, and all 500 games accessible on Rooplay.com. Management expects Rooplay to be launched on the Apple iOS in early 2018.

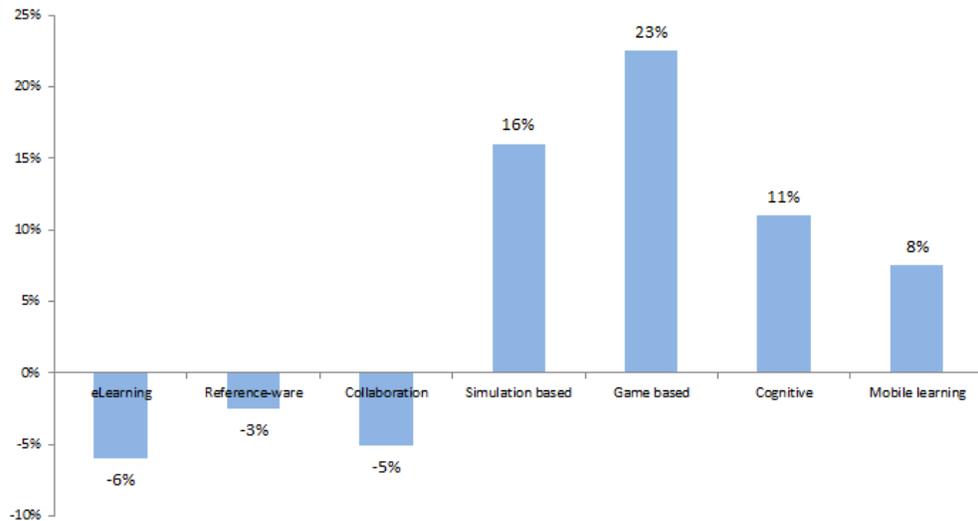
As discussed in detail in our previous update, Rooplay is a game / educational platform primarily targeting kids aged 2 to 10 years of age. The vision for Rooplay is to be for games how Netflix (Nasdaq: NFLX) is for videos and Spotify is for music. The platform is specifically designed to be totally safe for kids as it has no advertisements, no in-app purchases, no outbound links, no instant messaging, and no social networks. Although there are several apps targeting kids in the market today, we believe that most of them are either purely game apps or educational apps. Rooplay is unique as it is a platform of in-house and licensed content that not only includes games and learning apps for kids, but also family games which allows parents / adults to participate by playing games with their kids.

With over 500 games on the platform, we believe that Shoal has significant first mover advantage in the growing EdTech space focused on games for kids. Rooplay is available in 27 different languages in 137 countries.

The following points highlight why we have a positive outlook on the sector:

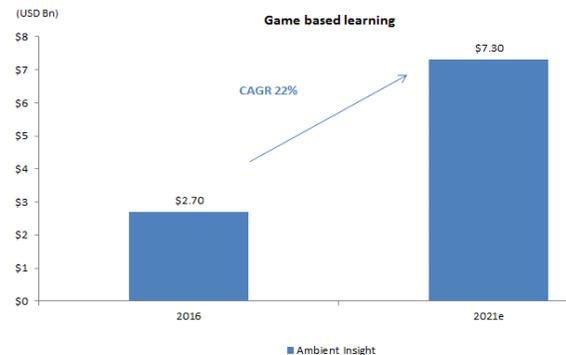
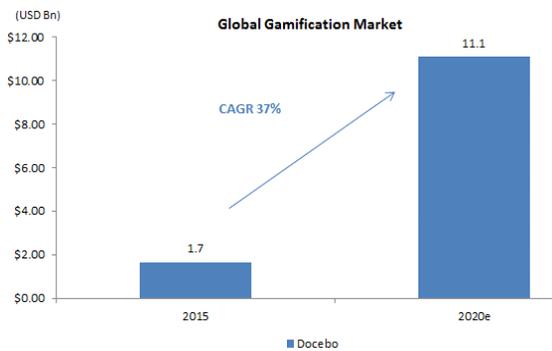
- The rapid adoption of mobile devices by children. According to research published by the American Academy of Pediatrics, **97% of the children surveyed under the age of 4, use mobile devices**, irrespective of household income.
- According to the Speak Up organization in the U.S., 48% of teachers used games in their classrooms in 2015, up from 30% in 2012.
- Game based learning is expected to grow by 23% p.a. over the next five years – the fastest compared to six other learning technology types. (Source: Ambient Insight)

**Global 5-year growth rates (2016 – 2021) of seven learning technology product types**



Source: Ambient Insight

The global gamification market is expected to grow from US\$1.7 billion in 2015 to US\$11.1 billion by 2020, reflecting a compounded annual growth rate of 46% (according to Docebo). Ambient Research estimates the game based learning market will grow from US\$2.7 billion in 2016, to US\$7.3 billion by 2021, reflecting a 22% p.a. growth rate.



*Licensing agreements*

One of Shoal’s primary strategies to quickly gain mass adoption is by licensing popular intellectual property rights for use in their apps. **Games associated with popular brands / characters are likely to instantly appeal and capture attention, allowing Shoal to attract a much larger user-base at significantly low acquisition costs.**

The company had entered into an agreement with Paws Inc. for licensing Garfield in 2016. Since our previous report, the company launched 10 new original games featuring Garfield.

**Garfield games offered by Shoal**



*Source: Company*

Shoal currently has 12 originals – all of which are not only included in the Rooplay platform, but also available as stand-alone apps on Google Play. These stand-alone apps can be downloaded for free but then direct players to Rooplay, where they can access multiple games on a single platform.

Since our previous report, the company entered into two additional key licensing agreements.

- May 2017 - agreement to license ‘**Moomin**’ (through 2020), one of the most influential brands in Japan and across the Nordic countries.
- July 2017 - agreement to license ‘**Mr. Men and Little Miss**’ (through 2020) – According to the brand’s owner, over 250 million books on this title have been sold to date.

Similar to the Garfield games, Shoal is currently developing games based on characters from the above mentioned brands. In our discussions with management, it was indicated that the company was focused on classic games to date, but is now focusing more on educational games. Shoal’s first suite of educational games will be based on the subject of learning English. “Moomin Learn English” and “Garfield Learn English” are both scheduled for Q4-2017 releases on Rooplay as stand-alone apps, on Rooplay.com, and with Shoal’s distribution partners.

**Marketing**

The company intends to gain traction through direct marketing to consumers and through partnerships with mobile handset manufacturers, cable companies, in-flight entertainment, and mobile telecommunications operators through a revenue share model.

Revenues from direct marketing to consumers will be based on a monthly subscription recurring revenue business model. Management has set a subscription price of \$3.99 per month (previously \$4.99 per month), after a 30-day trial period.

Management estimates a direct user acquisition cost of \$2 per install, and a 3% conversion rate from installs to paid subscribers. The user acquisition cost is zero when partnered through their distribution partners, such as mobile operators. Therefore, the average expected cost is \$0.20 per install, assuming 10% direct user acquisition and 90% through partnerships. This translates into a cost of \$5.70 per paid subscriber. The estimated life of a paid subscription is approximately 25 months, which is in line with Netflix. **At \$3.99 per month, the estimated lifetime revenue of Rooplay is approximately \$100.** These figures are for customers located in developed countries. In comparison, Netflix's user acquisition cost is approximately \$18 and the lifetime revenues are approximately \$290.

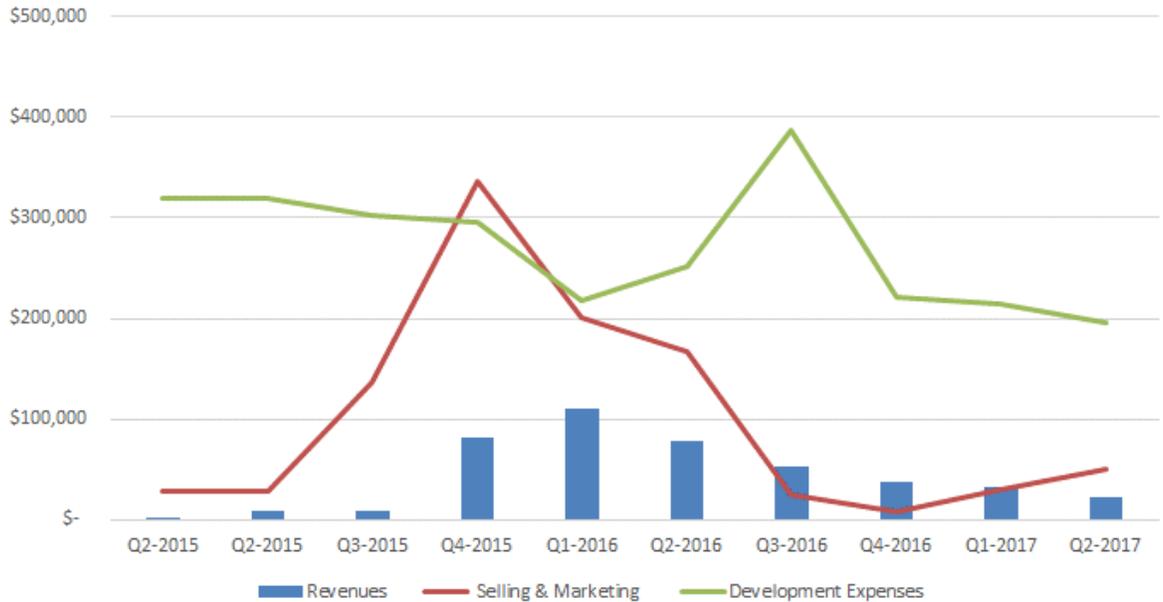
Shoal's management estimates a gross margin per subscriber (in developed countries) per month of \$2.34 for direct acquisitions after deducting the component of revenues that will be shared with partners (approximately 44%) and cloud hosting fees (approximately 2%). **This implies a gross profit of \$58 per subscriber (lifetime) from a user acquisition cost of \$5.70, or multiple of 10x.** In comparison, Netflix's gross margin is 35% (\$102 per user), and operating margin (excluding general and administrative expenses) is approximately 17% (\$49 per user). This reflects a gross profit to user acquisition cost of 5.6x and operating profit to user acquisition cost of 2.7x.

We believe management's estimates regarding conversion rates and user acquisition costs are reasonable based on our review of the industry standard metrics presented in our previous report.

## Financials

As a result of the shift in focus from the company's bingo gaming apps to Rooplay, the company had significantly cut down marketing expenses in 2016. Revenues have been on a declining trend since Q1-2016 as shown in the chart below. Revenues in the first six months of 2017 were \$56k versus \$189k in the same period last year. We note that investors should be focused on the long-term potential and viability of early stage companies, such as Shoal, as quarterly fluctuations in revenues and EPS in the early stages are not unlikely, and do not reflect such companies' true potential.

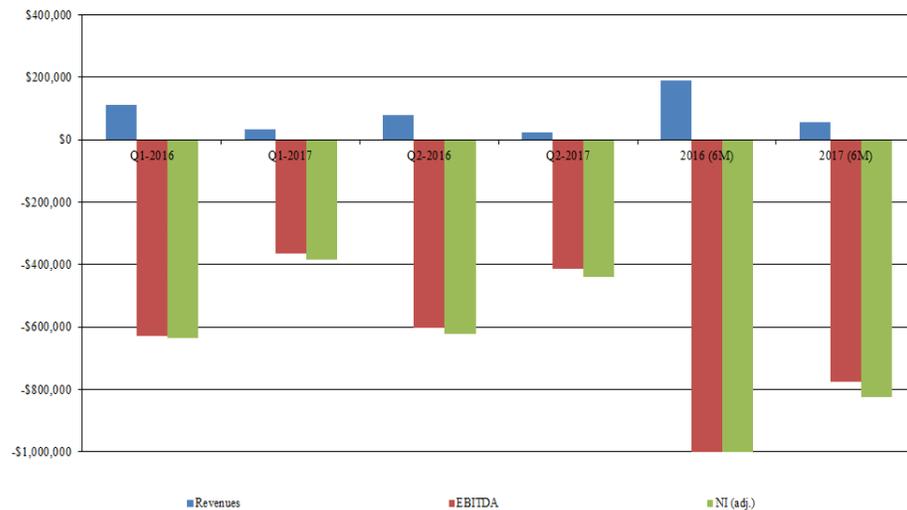
### Operating Performance



Shoal started ramping up marketing expenses in Q2-2017 with the launch of Rooplay. In Q2-2017, the company spent \$51k in selling and marketing versus just \$9k in Q4-2016. Management expects to spend approximately \$150k in the second half of 2017.

Development expenses were \$0.41 million in the first six months of 2017.

In the first six months of 2017, the company reported EBITDA of -\$0.78 million versus -\$1.23 million the same period last year. The net loss was \$0.82 million (EPS: -\$0.01) versus \$1.25 million (EPS: -\$0.02).



*Balance sheet and cash flows*

By the end of Q2-2017, the company had spent a total of \$5.35 million for the development of Rooplay and its bingo apps since 2012.

Management estimates 2017 operating expenses (including G&A, compensation, consulting expenses) will be approximately \$1.6 million, including development expenses of approximately \$0.90 million.

Free cash flows were -\$0.78 million in the first half of 2017 versus -\$1.90 million in the same period last year.

Summary of Cash Flows	2016 (6M)	2017 (6M)
Cash Flows from Operations	(1,895,924)	(779,849)
Cash Flows from Investing	-	(210)
Cash Flows from Financing	1,513,354	973,864
Net Change	(382,570)	193,805
<b>Free Cash Flows</b>	<b>(1,895,924)</b>	<b>(780,059)</b>

At the end of Q2-2017, the company had \$0.25 million in cash. Working capital and the current ratio were \$0.09 million, and 1.4x, respectively.

Liquidity Analysis	2014	2015	2016	Q2-2017
Cash	\$2,876,386	\$570,086	\$60,190	\$253,995
Working Capital	\$2,856,230	\$454,447	\$13,896	\$90,905
Current Ratio	19.24	3.56	1.14	1.41
Debt / Capital	0.0%	0.0%	942.3%	459.9%
LT Debt / Capital	0.0%	0.0%	928.0%	459.9%

The company has a line of credit and loan arrangement with the Chairman, Tarnie Williams, and another major shareholder, for up to \$5 million; \$0.59 million was drawn at the end of Q2.

In Q2, the company closed a C\$1.05 million private placement by issuing 2.32 million units at a unit price of C\$0.45. Each unit consisted of a common share and a warrant (term – 1 year, exercise price - C\$0.55 per share for the first six months, C\$0.65 per share for the subsequent six months). Management and insiders subscribed for approximately 50% of the offering.

**Stock options and warrants:** The company has 0.94 million options (Weighted average exercise price of C\$0.42) and 2.32 million warrants (weighted average exercise price of C\$0.60) outstanding. **Currently, all the options and warrants are in the money, indicating that it can raise up \$1.79 million if they all are exercised.**

*Valuation*

We have adjusted our revenue forecasts based on the revised monthly subscription rate and as we pushed out the company’s marketing campaign for Rooplay. The following table

shows our revised revenue forecasts. Notes that these estimates are based on 10% direct user acquisition and 90% through partnerships. We have used a high discount rate of 15% in our DCF valuation model to account for the risk.

Rooplay	2017E	2018E	2019E	2020E	2021E
User Acquisition Cost	\$5.7	\$5.7	\$5.7	\$5.7	\$5.7
Marketing Dollars	\$250,000	\$350,000	\$2,000,000	\$4,000,000	\$8,000,000
Avg Subscribers	43,750	61,250	350,000	700,000	1,400,000
Subscription Rate (annual)	\$48	\$48	\$48	\$48	\$48
<b>Revenues</b>	<b>\$174,563</b>	<b>\$5,027,400</b>	<b>\$19,690,650</b>	<b>\$50,274,000</b>	<b>\$100,548,000</b>

STATEMENTS OF OPERATIONS						
(in US\$)- YE Dec 31st	2016	2017E	2018E	2019E	2020E	2021E
Revenues	278,921	251,213	5,173,400	20,201,650	51,369,000	103,468,000
Cost of Sales	482,013	136,461	2,054,760	9,014,093	22,951,800	46,122,600
<b>Gross Profit</b>	<b>-203,092</b>	<b>114,752</b>	<b>3,118,640</b>	<b>11,187,558</b>	<b>28,417,200</b>	<b>57,345,400</b>
<b>Expenses</b>						
Selling & Marketing	403,523	250,000	450,000	2,250,000	4,500,000	9,500,000
Development	1,077,638	969,874	1,260,836	1,891,255	2,836,882	4,255,323
Stock Based Compensation	257,293					
Compensation & Consultation	419,166	453,704	1,814,816	3,175,928	5,557,874	9,726,280
Bad Debt Expense	27,666					
G & A	231,404	254,544	445,453	779,542	1,559,084	3,118,169
<b>EBITDA</b>	<b>-2,619,782</b>	<b>-1,813,371</b>	<b>-852,465</b>	<b>3,090,833</b>	<b>13,963,360</b>	<b>30,745,629</b>
Amortization	3,570	6,089	5,436	5,174	5,070	5,028
<b>EBIT</b>	<b>-2,623,352</b>	<b>-1,819,460</b>	<b>-857,901</b>	<b>3,085,658</b>	<b>13,958,290</b>	<b>30,740,601</b>
Interest & Bank Charges	155					
Exchange rate and Unusual items	-33,020					
<b>EBT</b>	<b>-2,656,217</b>	<b>-1,819,460</b>	<b>-857,901</b>	<b>3,085,658</b>	<b>13,958,290</b>	<b>30,740,601</b>
Unusual gain or loss	-498,791					
Income Taxes	1,294			925,698	4,187,487	9,222,180
<b>Net Earnings for the period</b>	<b>-3,156,302</b>	<b>-1,819,460</b>	<b>-857,901</b>	<b>2,159,961</b>	<b>9,770,803</b>	<b>21,518,420</b>
EPS	-0.05	-0.03	-0.01	0.03	0.14	0.32

Our revised Discounted Cash Flow Valuation is C\$1.77 per share, versus our previous estimate of C\$1.85 per share. Our valuation dropped as we pushed our revenue forecasts for Rooplay and as we lowered our forecasts for the bingo apps.

The following table shows a summary of our valuation model:

DCF Valuation						
	H2-2017E	2018E	2019E	2020E	2021E	Terminal
Funds Flow from Operations (US\$)	(1,031,943)	(852,465)	2,165,135	9,775,873	21,523,448	
Change in Working Capital (US\$)	136,525	(156,168)	(555,708)	(1,431,846)	(2,256,791)	
Cash from Operations (US\$)	(895,418)	(1,008,633)	1,609,427	8,344,027	19,266,657	
CAPEX (US\$)	(4,790)	(5,000)	(5,000)	(5,000)	(5,000)	
Free Cash Flow (US\$)	(900,208)	(1,013,633)	1,604,427	8,339,027	19,261,657	
Present Value (US\$)	(869,297)	(851,155)	1,171,520	5,294,774	10,634,763	91,281,719
Discount Rate	15%					
Terminal Growth	3%					
Present Value (C\$)	\$117,328,557					
Cash - Debt* (C\$)	\$319,673					
Fair Value (C\$)	\$117,648,230					
Shares O/S*	66,608,040					
Value per Share (C\$)	\$1.77					

\* assumes completion of a \$1M equity financing at C\$0.45 per share

\* long-term C\$/US\$ - 1.1

**We are maintaining our BUY rating and adjusting our fair value estimate to C\$1.77 per share.** As mentioned in our previous reports, our fair value estimate is heavily dependent on Rooplay’s ability to gain traction. Shoal’s key strength is its strong management team and the unique value proposition of Rooplay.

**Risks**

The following risks, though not exhaustive, may cause our estimates to differ from actual results:

- The company’s primary app, Rooplay, is in early stages.
- Attracting players and keeping them engaged is critical and requires continuous development and innovation.
- The social games sector is highly competitive.
- The social bingo gaming market is currently dominated by two established players.
- The company may have to pursue equity financings, which may dilute existing shareholders.
- The social games sector is currently not subject to any material regulations. Any unfavorable changes in regulations in the future may impact the company’s business.
- Management and insiders own over 75% - 80% of the outstanding shares. Therefore, the liquidity and the average daily trading volume of SGW’s shares are low at this time.

**We maintain our risk rating of 5 (Highly Speculative).**

**APPENDIX**

<b>STATEMENTS OF OPERATIONS</b>			
<b>(in US\$)- YE Dec 31st</b>	<b>2016</b>	<b>2017E</b>	<b>2018E</b>
Revenues	278,921	251,213	5,173,400
Cost of Sales	482,013	136,461	2,054,760
<b>Gross Profit</b>	<b>-203,092</b>	<b>114,752</b>	<b>3,118,640</b>
<b>Expenses</b>			
Selling & Marketing	403,523	250,000	450,000
Development	1,077,638	969,874	1,260,836
Stock Based Compensation	257,293		
Compensation & Consulation	419,166	453,704	1,814,816
Bad Debt Expense	27,666		
G & A	231,404	254,544	445,453
<b>EBITDA</b>	<b>-2,619,782</b>	<b>-1,813,371</b>	<b>-852,465</b>
Amortization	3,570	6,089	5,436
<b>EBIT</b>	<b>-2,623,352</b>	<b>-1,819,460</b>	<b>-857,901</b>
Interest & Bank Charges	155		
Exchange rate and Unusual items	-33,020		
<b>EBT</b>	<b>-2,656,217</b>	<b>-1,819,460</b>	<b>-857,901</b>
Unusual gain or loss	-498,791		
Income Taxes	1,294		
<b>Net Earnings for the period</b>	<b>-3,156,302</b>	<b>-1,819,460</b>	<b>-857,901</b>
EPS	-0.05	-0.03	-0.01

<b>BALANCE SHEET</b>			
<b>(in US\$)- YE Dec 31st</b>	<b>2016</b>	<b>2017E</b>	<b>2018E</b>
<b>Assets</b>			
Cash	60,190	165,651	152,018
Accounts receivable	17,194	11,475	311,864
Prepaid expenses	33,494	2,295	62,373
<b>Current Assets</b>	<b>110,878</b>	<b>179,422</b>	<b>526,255</b>
Property and equipment	10,148	9,059	8,624
Other Assets	-	-	-
Security Deposits	8,067	8,067	8,067
<b>Total Assets</b>	<b>129,093</b>	<b>196,548</b>	<b>542,945</b>
<b>Liabilities &amp; Shareholders' Equity</b>			
Accounts payables & accrued liabilities	91,626	192,812	397,111
Deferred income			
Loans payable/ borrowings			
Derivative			
Related parties	5,356	5,356	5,356
<b>Current Liabilities</b>	<b>96,982</b>	<b>198,168</b>	<b>402,467</b>
Loans payable	347,698	547,698	547,698
<b>Shareholder's Equity</b>			
Share Capital	21,223,271	22,808,999	23,808,999
Foreign Currency Translation	24,580	24,580	24,580
Deficit	-21,563,438	-23,382,898	-24,240,798
<b>Total Liabilities &amp; Shareholders' Equity</b>	<b>129,093</b>	<b>196,548</b>	<b>542,945</b>

<b>STATEMENTS OF CASH FLOWS</b>			
<b>(in US\$)- YE Dec 31st</b>	<b>2016</b>	<b>2017E</b>	<b>2018E</b>
<b>Operating Activities</b>			
Net earnings for the period	-3,156,302	-1,819,460	-857,901
<b>Items not involving cash</b>			
Depreciation	3,570	6,089	5,436
Trophy Bingo Amortization	482,013		
Gain on sale of domain name/others	262,464		
	<b>-2,408,255</b>	<b>-1,813,371</b>	<b>-852,465</b>
Accounts Receivable	27,754	5,719	-300,389
Other Assets	893		
Prepaid Expenses	-16,289	31,199	-60,078
Security Deposits			
Accounts payable and accrued expenses	-80,810	101,186	204,298
<b>Changes in working capital</b>	<b>-68,452</b>	<b>138,104</b>	<b>-156,168</b>
<b>Cash from (used in) operations</b>	<b>-2,476,707</b>	<b>-1,675,267</b>	<b>-1,008,633</b>
<b>Financing activities</b>			
Proceeds from secured borrowings, net	400,811	200,000	
Private Placement	1,573,404	1,585,728	1,000,000
Exercise of Stock Options			
<b>Cash provided by financing activities</b>	<b>1,974,215</b>	<b>1,785,728</b>	<b>1,000,000</b>
<b>Investing activities</b>			
Acquisition of Equipment	-7,404	-5,000	-5,000
<b>Cash used in investing activities</b>	<b>-7,404</b>	<b>-5,000</b>	<b>-5,000</b>
<b>Increase (decrease) in cash</b>	<b>-509,896</b>	<b>105,461</b>	<b>-13,633</b>
Cash beginning of period	570,086	60,190	165,651
<b>Cash end of period</b>	<b>60,190</b>	<b>165,651</b>	<b>152,018</b>

**Fundamental Research Corp. Equity Rating Scale:**

**Buy** – Annual expected rate of return exceeds 12% or the expected return is commensurate with risk

**Hold** – Annual expected rate of return is between 5% and 12%

**Sell** – Annual expected rate of return is below 5% or the expected return is not commensurate with risk

**Suspended or Rating N/A**— Coverage and ratings suspended until more information can be obtained from the company regarding recent events.

**Fundamental Research Corp. Risk Rating Scale:**

**1 (Low Risk)** - The company operates in an industry where it has a strong position (for example a monopoly, high market share etc.) or operates in a regulated industry. The future outlook is stable or positive for the industry. The company generates positive free cash flow and has a history of profitability. The capital structure is conservative with little or no debt.

**2 (Below Average Risk)** - The company operates in an industry where the fundamentals and outlook are positive. The industry and company are relatively less sensitive to systematic risk than companies with a Risk Rating of 3. The company has a history of profitability and has demonstrated its ability to generate positive free cash flows (though current free cash flow may be negative due to capital investment). The company's capital structure is conservative with little to modest use of debt.

**3 (Average Risk)** - The company operates in an industry that has average sensitivity to systematic risk. The industry may be cyclical. Profits and cash flow are sensitive to economic factors although the company has demonstrated its ability to generate positive earnings and cash flow. Debt use is in line with industry averages, and coverage ratios are sufficient.

**4 (Speculative)** - The company has little or no history of generating earnings or cash flow. Debt use is higher. These companies may be in start-up mode or in a turnaround situation. These companies should be considered speculative.

**5 (Highly Speculative)** - The company has no history of generating earnings or cash flow. They may operate in a new industry with new, and unproven products. Products may be at the development stage, testing, or seeking regulatory approval. These companies may run into liquidity issues, and may rely on external funding. These stocks are considered highly speculative.

**Disclaimers and Disclosure**

The opinions expressed in this report are the true opinions of the analyst about this company and industry. Any "forward looking statements" are our best estimates and opinions based upon information that is publicly available and that we believe to be correct, but we have not independently verified with respect to truth or correctness. There is no guarantee that our forecasts will materialize. Actual results will likely vary. The analyst and Fundamental Research Corp. "FRC" does not own any shares of the subject company, does not make a market or offer shares for sale of the subject company, and does not have any investment banking business with the subject company. Fees were paid by SGW to FRC. The purpose of the fee is to subsidize the high costs of research and monitoring. FRC takes steps to ensure independence including setting fees in advance and utilizing analysts who must abide by CFA Institute Code of Ethics and Standards of Professional Conduct. Additionally, analysts may not trade in any security under coverage. Our full editorial control of all research, timing of release of the reports, and release of liability for negative reports are protected contractually. To further ensure independence, SGW has agreed to a minimum coverage term including four reports. Coverage can not be unilaterally terminated. Distribution procedure: our reports are distributed first to our web-based subscribers on the date shown on this report then made available to delayed access users through various other channels for a limited time.

The distribution of FRC's ratings are as follows: BUY (71%), HOLD (8%), SELL (5%), SUSPEND (16%).

To subscribe for real-time access to research, visit <http://www.researchfrc.com/subscribe.php> for subscription options.

This report contains "forward looking" statements. Forward-looking statements regarding the Company and/or stock's performance inherently involve risks and uncertainties that could cause actual results to differ from such forward-looking statements. Factors that would cause or contribute to such differences include, but are not limited to, continued acceptance of the Company's products/services in the marketplace; acceptance in the marketplace of the Company's new product lines/services; competitive factors; new product/service introductions by others; technological changes; dependence on suppliers; systematic market risks and other risks discussed in the Company's periodic report filings, including interim reports, annual reports, and annual information forms filed with the various securities regulators. By making these forward looking statements, Fundamental Research Corp. and the analyst/author of this report undertakes no obligation to update these statements for revisions or changes after the date of this report. A report initiating coverage will most often be updated quarterly while a report issuing a rating may have no further or less frequent updates because the subject company is likely to be in earlier stages where nothing material may occur quarter to quarter.

Fundamental Research Corp DOES NOT MAKE ANY WARRANTIES, EXPRESSED OR IMPLIED, AS TO RESULTS TO BE OBTAINED FROM USING THIS INFORMATION AND MAKES NO EXPRESS OR IMPLIED WARRANTIES OR FITNESS FOR A PARTICULAR USE. ANYONE USING THIS REPORT ASSUMES FULL RESPONSIBILITY FOR WHATEVER RESULTS THEY OBTAIN FROM WHATEVER USE THE INFORMATION WAS PUT TO. ALWAYS TALK TO YOUR FINANCIAL ADVISOR BEFORE YOU INVEST. WHETHER A STOCK SHOULD BE INCLUDED IN A PORTFOLIO DEPENDS ON ONE'S RISK TOLERANCE, OBJECTIVES, SITUATION, RETURN ON OTHER ASSETS, ETC. ONLY YOUR INVESTMENT ADVISOR WHO KNOWS YOUR UNIQUE CIRCUMSTANCES CAN MAKE A PROPER RECOMMENDATION AS TO THE MERIT OF ANY PARTICULAR SECURITY FOR INCLUSION IN YOUR PORTFOLIO. This REPORT is solely for informative purposes and is not a solicitation or an offer to buy or sell any security. It is not intended as being a complete description of the company, industry, securities or developments referred to in the material. Any forecasts contained in this report were independently prepared unless otherwise stated, and HAVE NOT BEEN endorsed by the Management of the company which is the subject of this report. Additional information is available upon request. THIS REPORT IS COPYRIGHT. YOU MAY NOT REDISTRIBUTE THIS REPORT WITHOUT OUR PERMISSION. Please give proper credit, including citing Fundamental Research Corp and/or the analyst, when quoting information from this report.

The information contained in this report is intended to be viewed only in jurisdictions where it may be legally viewed and is not intended for use by any person or entity in any jurisdiction where such use would be contrary to local regulations or which would require any registration requirement within such jurisdiction.