Tharushi Perera, B.Sc, ACMA, CGMA

May 8, 2017

Shoal Games Ltd. (TSXV: SGW / OTCQB: SGLDF) – Launches new app with an aggressive distribution strategy

Sector/Industry: Mobile Games www.shoalgames.com

Market Data (as of May 8, 2017)

0, =017)
C\$0.57
C\$1.85
BUY
5 (Highly Spec)
C\$0.39 - C\$0.75
59,708,318
C\$34.03 mm
N/A
N/A
N/A
-24.0%
18.7%

<sup>\*</sup>see back of report for rating and risk definitions

<sup>\*</sup>All the figures are in US\$ unless otherwise specified.



## **Highlights**

- ➤ Shoal Games Ltd. ("Shoal", "company") launched its latest app, Rooplay, worldwide on Android in April 2017. The platform currently offers over 500 games / educational titles for children. The vision for Rooplay is to be the Netflix of Games for kids.
- ➤ Game based learning has been gaining traction across the globe at a rapid rate. For example, sources suggest that 48% of teachers currently use games in their classrooms in 2015, up from 30% in 2012. Ambient Research estimates that 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.
- ➤ Shoal intends to attract users for Rooplay through direct marketing to consumers and through B2B (business to business) partnerships with mobile handset manufacturers, cable companies, and mobile telecommunications operators.
- ➤ Rooplay was first launched in English. The first non-English version was launched in Iran through a partnership with the largest android marketplace in Iran, with over 28 million active users.
- Rooplay is now live in 27 languages. Management has planned an aggressive marketing strategy for the next 12 months.
- We are raising our fair value estimate from C\$1.50 to C\$1.85 per share.

Key Financial Data (FYE - Dec 31)				
(US\$)	2015	2016	2017E	2018E
Cash	570,086	60,190	441,000	8,099,045
Working Capital	454,447	13,896	52,835	9,382,827
Total Assets	1,129,526	129,093	534,909	10,249,567
LT Debt to Capital	0.0%	928.0%	461.6%	3.7%
Revenues	111,610	278,921	1,569,025	48,980,500
Net Income	(2,965,682)	(3,156,302)	(3,962,150)	9,329,556
EPS	-0.05	-0.05	-0.06	0.14



## Launches Rooplay

Rooplay was officially launched by Shoal at the GSMA's Mobile World Congress (the world's largest conference for the mobile industry) in Barcelona in March 2017. **Shoal had announced its intent to develop Rooplay in September 2016.** In our previous update report in December 2016, we had presented a brief overview of Rooplay based on the information disclosed by the company at that time. The company has made significant progress since then. The following section presents a detailed overview of Rooplay, its features, target market, revenue model, and management's marketing strategy.

### **Overview**

Rooplay is a games / educational platform primarily targeting kids aged 2 to 10 years. The vision for Rooplay is to be for games how Netflix 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.

The primary objective of the app is to keep kids engaged by providing a wide range of games and educational content, and encourage learning through gaming. Family games will also be a major segment of the platform. Examples of common titles include puzzles, paint pictures, practice language, learn math, etc. Management's goal for Rooplay is to eventually offer thousands of curated games developed in house and licensed from third-parties. The app currently has over 500 games, mostly licensed from independent developers around the world, with branded educational games primarily developed in-house.

# 500+ Games for Families and Early Learning



Although there are several apps targeting kids in the market today, most of them are either purely game apps or educational apps. Rooplay is unique as it is a platform of inhouse and licensed content that not only includes games and learning apps for kids, but also family games which allows parents / adults to participate in playing games with their kids.

Management realizes that the development of exclusive content is critical to the competitive position of Rooplay. One of Shoal's key strategies is to license popular intellectual property rights for use in games and learning apps. For example, several games on Rooplay feature Garfield; the following four titles are currently live - Garfield Math Bingo, Garfield ABCs, Garfield Coloring Book, and Garfield Memory Match. Shoal has another 10 games in development featuring Garfield. These games are likely to instantly appeal and

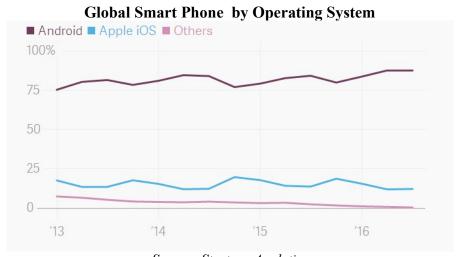


capture the attention of the approximately 19 million Facebook (Nasdaq: FB) fans of Garfield, allowing Shoal to attract a much larger user-base at much lower player acquisition costs.

The company's goal is to produce five new games per month initially, and increase to 10 per month over the longer-term.

### **Marketing Strategy**

Rooplay is exclusive to the Android operating system. As show in the chart below, Android currently holds approximately 88% of the global smartphone market. Apple iOS is approximately at 12%.



Source: Strategy Analytics

Rooplay was initially launched in English. In order to rapidly expand globally, the platform is now available in 27 different languages. A Persian version of Rooplay (see image below) was launched in Iran though a partnership with Café Bazaar, which is the largest android marketplace in Iran with over 28 million active users. The market share of Android in Iran was 87% as of March 2017 (Source: StatCounter). Café Bazaar caters to Persian speaking users, and offers over 25,000 downloadable Iranian and international apps for gaming, social media, messaging and other uses. On average, the platform gets approximately 20 million visits per week.





بیش از ۵۰۰ بازی آموزشی برای کودکان

Shoal intends to gain traction through direct marketing to consumers and through partnerships with mobile handset manufacturers, cable companies, and mobile telecommunications operators through a revenue share model. The company has disclosed that they are already in contact with leading telecom players in Canada, the US, the UK, Spain, Brazil, Sweden, Morocco, Saudi Arabia, Kenya, South Africa, and many more. China is also going to be a major target market for Rooplay.

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

Management estimates a direct user acquition cost of \$2 per install, and a 3.5% coversion rate from installs to paid subscibers. The user acquisition cost is zero when partnered through mobile operators. The average expected cost is \$0.20 per install assuming 10% direct user acquisiton and 90% through partnerships. This translates into a cost of \$5.7 per paid subscriber. The estimated life of a paid subscription is approximately 25 months, which is in line with Netflix. At \$4.99 per month, the estimated lifetime revenue of a Rooplay subscriber is approximately \$125.

In comparison, Netflix's user acquisition cost is approximately \$18 and the lifetime revenues are approximately \$290. Their gross margin is 35% (\$102 per user), and the 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.

Shoal's management estimates a gross margin of 65% for direct acquisitions. After deducting the component of revenues that will be shared by partners (which we estimate at 50%), we



estimate a gross margin of 35%. This implies a gross profit of \$43.7 per subscriber (35% of \$125 life time revenues) from a user acquisition cost of \$5.7, or multiple of 7.7x.

We believe management's estimates regarding conversion rates and user acquistion costs are reasonable based on our review of industry standard metrics, presented below.

According to Monetate, the typical conversion rate of apps (all types) is approximately 2.95%. Gaming apps tend to have higher conversion rates due to their addictive feature.

Conversion Rates	Q3 2014	Q4 2014	Q1 2015	Q2 2015	Q3 2015
Global	2.95%	3.51%	2.81%	3.11%	2.95%
US	3.05%	3.69%	2.90%	3.22%	3.06%
GB	4.16%	4.07%	3.68%	4.26%	4.02%

Source: Monetate

The following chart shows the typical costs per install by country. It is approximately \$2.96 in the U.S.



In the gaming sector, the average cost per install for Android is \$3.48, and the average conversion rate is 7.9%. The total cost to acquire a paid subscriber is \$43.92.





Source: Mobile Gaming Apps Report

The cost per install and conversion rates vary widely across regions.



Source: Mobile Gaming Apps Report

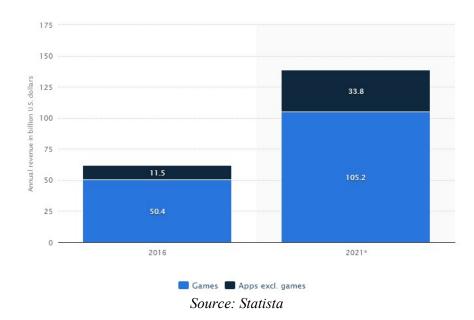
Unicorn company as a benchmark

The best example of a successful system in the e-learning space is ABCmouse, which is an educational app and online system in English focused on kindergarten and early elementary school programs. Launched in 2010, the platform currently has approximately 8,500 individual learning activities. It is estimated to have over 1 million paid subscribers at a monthly rate of \$7.95. With revenues of over US\$100 million, the platform is currently valued at approximately \$1 billion (valued based on a \$150 million private equity investment in 2016). ABCmouse is owned by Age of Learning, Inc., a privately owned education technology company based out of Glendale, California.

Gaming app industry

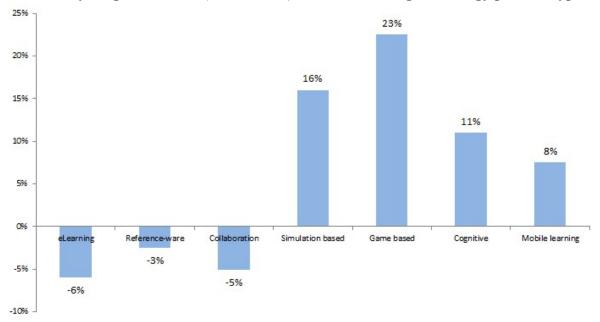
According to Statista, global gaming app revenues are expected to grow from US\$50.4 billion in 2016, to \$105.2 billion by 2021, reflecting a CAGR 16%.





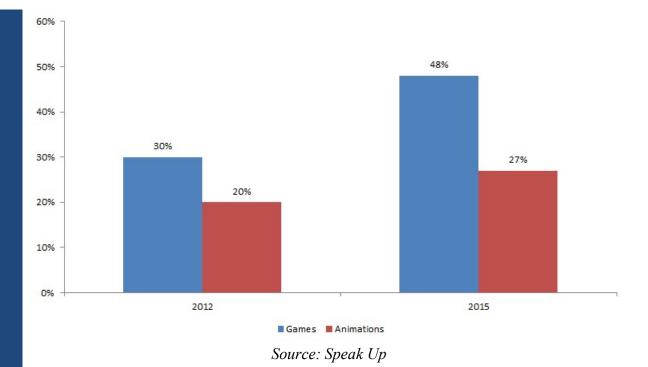
According to Ambient Insight, game based learning is expected to grow by 23% p.a. over the next five years – the fastest compared to six other learning technology types.

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

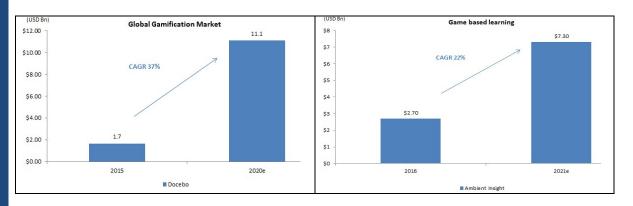


According to the Speak Up organization in the U.S., 48% of teachers used games in their class rooms in 2015, up from 30% in 2012.



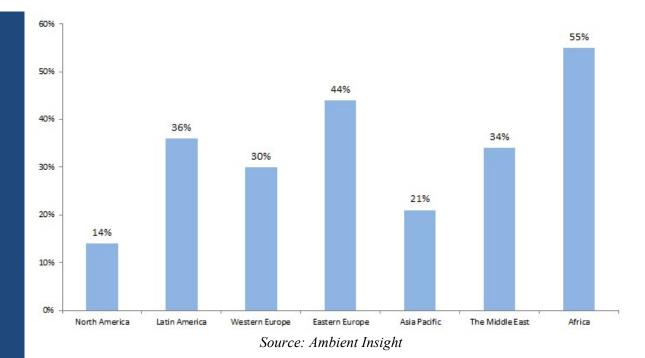


The global gamification market is expected to grow from US\$1.7 billion in 2015 to US\$11.1 billion by 2020, reflecting a compounded annual growth rate of 46% (according to Docebo). Ambient Research estimates the game based learning market will grow from US\$2.7 billion in 2016, to US\$7.3 billion by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

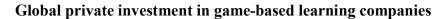


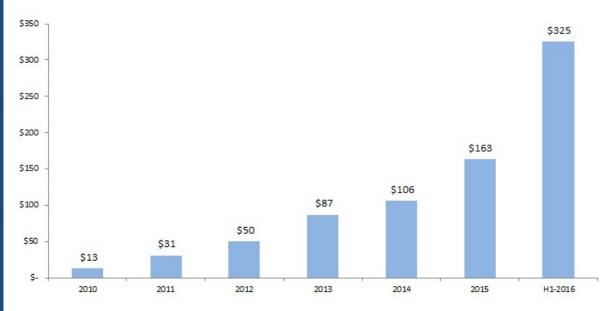
The following chart shows the expected growth of game based learning from 2016 to 2021 by region.





The sector has been getting a lot of attention from private equity over the past two years. As shown below, in the first half of 2016, approximately US\$325 million was invested into 37 game based learning companies.





In summary, we believe the market conditions are very conducive for an up and coming new app, such as Rooplay, in the rapidly growing game based learning market. We believe the positive industry outlook, combined with management's aggressive marketing strategy, offer Shoal exciting upside potential.



## Bingo Gaming Apps

Shoal's current revenue generation is from its first two gaming apps, focused on bingo, namely Trophy Bingo and Garfield's Bingo (launched in late 2016). The two apps have had over 500,000 installs. The apps are live in the Apple, Google and Amazon App Stores.

Unlike Rooplay, revenues from these apps come from in-app purchases. The target market of these apps is much smaller than Rooplay. The bingo market is estimated to be approximately \$150 million in annual revenues, and is dominated by two leaders – Bingo Blitz and Bingo Bash.

The company has plans to launch Garfield Bingo China by partnering with a local distribution company. China is a major market for mobile gaming. As an example of the potential for a Garfield game in China - in December 2015, Animoca Brands (ASX: AB1) launched a localized version of their popular mobile game, *Garfield Chef*, in China through Xiaomi – the number one smart phone manufacturer in China. The app had 7 million downloads within the first 12 months.

Delay in financings to fund player acquisition strategies prompted Shoal to scale back its marketing expenses associated with the bingo apps. Also, in August 2016, the company's development partner, Roadhouse Interactive Limited, was placed in receivership. The company had prepaid approximately \$0.50 million to Roadhouse, which had to be written off in Q3-2016. Although Roadhouse's demise was concerning, management of Shoal was able to quickly deal with the setback by providing direct employment to the key members of the development team at Roadhouse. Shoal brought in a new VP of Development, Kirsten Forbes, who was previously the VP Product Development at Roadhouse Interactive.

The company has leased an office in Vancouver, and currently has an 11 member development team there, in addition to a few programmers from the Rooplay team in London.

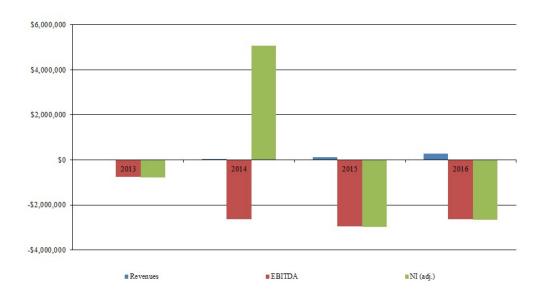
## **Financials**

As a result of the above, Shoal reduced their marketing expenses significantly to just \$9k in Q4-2016, down from \$26k in Q3, \$167k in Q2, and \$201k in Q1. The decline in marketing spending impacted the company's overall performance in Q4, as revenues dropped to \$38k versus \$53k in Q3, \$78k in Q2 and \$110k in Q1 (see chart below).





The strong first half allowed the company to report strong YoY revenue growth of 150% to \$0.28 million. 2016 EBITDA was -\$2.62 million versus - \$2.95 million in 2015.



In 2016, the company reported a net loss of \$3.16 million (EPS: -\$0.05) versus \$2.97 million (EPS: -\$0.05) in 2015. Excluding the write-off, the company reported a net loss of \$2.66 million (EPS: -\$0.04) in 2016.

Management estimates 2017 operating expenses (including G&A, compensation, consulting expenses) will be approximately \$1.4 million, and third party games and development expenses will be approximately \$150,000.

Balance sheet and cash flows

Free cash flows were -\$2.48 million in 2016 versus -\$2.38 million in 2015.



Summary of Cash Flows	2014	2015	2016
Cash Flows from Operations	(902,497)	(2,383,038)	(2,476,707)
Cash Flows from Investing	1,878,330	(512)	(7,404)
Cash Flows from Financing	1,409,350	77,250	1,974,215
Net Change	2,385,183	(2,306,300)	(509,896)
Free Cash Flows	975,833	(2,383,550)	(2,484,111)

At the end of 2016, the company had \$60k in cash. Working capital and the current ratio were \$13k, and 1.1x, respectively.

Liquidity Analysis	2014	2015	2016
Cash	\$2,876,386	\$570,086	\$60,190
Working Capital	\$2,856,230	\$454,447	\$13,896
Current Ratio	19.24	3.56	1.14
Debt / Capital	0.0%	0.0%	942.3%
LT Debt / Capital	0.0%	0.0%	928.0%
EBIT Interest Coverage Ratio	(5,150.2)	(2,707.8)	(16,924.9)

The company has a line of credit and loan arrangement with the Chairman, Tarrnie Williams, and another major shareholder, for up to \$5 million; \$348k was drawn at the end of 2016. The two individuals own 77% of the outstanding shares. We consider the continued support from the major shareholders as positive and indicate their continued conviction in the business' outlook.

**Stock options and warrants:** In December 2016, the company granted 1.01 million employee / director / consultant stock options with an exercise price of C\$0.54 per share. The company has no warrants outstanding.

#### Valuation

The following table shows our revenue forecasts:

Rooplay	2017E	2018E	2019E	2020E	2021E
User Acquisition Cost	\$5.7	\$5.7	\$5.7	\$5.7	\$5.7
Marketing Dollars	\$1,500,000	\$3,000,000	\$4,500,000	\$6,000,000	\$6,000,000
Average Subcribers (end of year)	262,500	525,000	787,500	1,050,000	1,050,000
Subscription Rate (annual)	\$60	\$60	\$60	\$60	\$60
Revenues	\$1,309,875	\$47,155,500	\$78,592,500	\$110,029,500	\$125,748,000
Bingo Games	2017E	2018E	2019E	2020E	2021E
User Acquisition Cost (monthly)	\$1.25	\$1.25	\$1.25	\$1.25	\$1.25
Marketing Dollars	\$250,000	\$1,000,000	\$2,500,000	\$5,000,000	\$5,000,000
DAU (end of year)	16,667	66,667	166,667	333,333	333,333
ARPDAU	\$0.12	\$0.12	\$0.12	\$0.12	\$0.12
Revenues	\$259,150	\$1,825,000	\$5,110,000	\$10,950,000	\$14,600,000

Our revised Discounted Cash Flow Valuation is C\$1.85 per share, up from our previous estimate of C\$1.50 per share. Our valuation increased as we included potential cash flows from Rooplay, offset by a reduction in our forecasts for the bingo apps. We also raised our



discount rate assumption from 11.3% to 15.0%, for conservatism, as Rooplay is in early stages.

The following table shows a summary of our valuation models:

DCF Valuation							
		2017E	2018E	2019E	2020E	2021E	Termina
Funds Flow from Operations (US\$)		(3,956,061)	9,334,992	12,329,124	17,971,058	20,409,854	
Change in Working Capital (US\$)		341,871	(1,671,947)	(1,093,631)	(1,107,814)	(509,531)	
Cash from Operations (US\$)		(3,614,190)	7,663,045	11,235,492	16,863,244	19,900,324	
CAPEX (US\$)		(5,000)	(5,000)	(5,000)	(5,000)	(5,000)	
Free Cash Flow (US\$)		(3,619,190)	7,658,045	11,230,492	16,858,244	19,895,324	
Present Value (US\$)		(3,147,122)	5,790,583	7,384,231	9,638,756	9,891,492	84,901,974
Discount Rate	15%						
Terminal Growth	3%						
Present Value (C\$)	\$125,905,905						
Cash - Debt* (C\$)	\$3,968,563						
Fair Value (C\$)	\$129,874,468						
Shares O/S*	70,108,318						
Value per Share (C\$)	\$1.85						

<sup>\*</sup> assumes completion of a \$4M equity financing at C\$0.50 per share

<sup>\*</sup> long-term C\$/US\$ - 1.1

STATEMENTS OF OPERATIONS					
(in US\$)- YE Dec 31st	2017E	2018E	2019E	2020E	2021E
Revenues	1,569,025	48,980,500	83,702,500	120,979,500	140,348,000
Cost of Sales	929,164	31,198,575	52,618,125	74,804,175	86,116,200
Gross Profit	639,861	17,781,925	31,084,375	46,175,325	54,231,800
Expenses					
Selling & Marketing	1,750,000	4,000,000	7,000,000	11,000,000	11,000,000
Development	1,185,402	1,541,022	2,003,329	2,604,328	3,385,626
Stock Based Compensation					
Compensation & Consulation	1,405,976	2,460,458	3,690,687	5,536,031	8,304,046
Bad Debt Expense					
G & A	254,544	445,453	779,542	1,364,199	2,387,348
EBITDA	-3,956,061	9,334,992	17,610,817	25,670,768	29,154,780
Amortization	6,089	5,436	5,174	5,070	5,028
EBIT	-3,962,150	9,329,556	17,605,643	25,665,698	29,149,752
Interest & Bank Charges					
Exchange rate and Unusual items					
EBT	-3,962,150	9,329,556	17,605,643	25,665,698	29,149,752
Unusual gain or loss					
Income Taxes			5,281,693	7,699,709	8,744,926
Net Earnings for the period	-3,962,150	9,329,556	12,323,950	17,965,989	20,404,827

We are maintaining our BUY rating and raising our fair value estimate to C\$1.85 per share. Shoal's key strength is its strong management team and the unique value proposition of



Rooplay.

Our fair value estimate is heavily dependent on Rooplay's ability to gain traction. We believe the high discount rate of 15% used in our models appropriately captures the risk associated with the business.

If Rooplay is able to gain traction quickly, we expect Shoal's valuation to be significantly higher than our current estimate.

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

- The company's primary apps are 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).

Risks



## **APPENDIX**

STATEMENTS OF OPERATIONS					
(in US\$)- YE Dec 31st	2017E	2018E	2019E	2020E	2021E
Revenues	1,569,025	48,980,500	83,702,500	120,979,500	140,348,000
Cost of Sales	929,164	31,198,575	52,618,125	74,804,175	86,116,200
Gross Profit	639,861	17,781,925	31,084,375	46,175,325	54,231,800
Expenses					
Selling & Marketing	1,750,000	4,000,000	7,000,000	11,000,000	11,000,000
Development	1,185,402	1,541,022	2,003,329	2,604,328	3,385,626
Stock Based Compensation					
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Bad Debt Expense					
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Interest & Bank Charges					
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Unusual gain or loss					
Income Taxes			5,281,693	7,699,709	8,744,926
Net Earnings for the period	-3,962,150	9,329,556	12,323,950	17,965,989	20,404,827
EPS	-0.06	0.13	0.18	0.26	0.29



(in US\$)- YE Dec 31st	2017E	2018E	2019E	2020E	2021E
Assets					
Cash	441,000	8,099,045	19,329,538	36,187,782	56,083,106
Accounts receivable	63,986	1,778,193	3,108,438	4,617,533	5,423,180
Prepaid expenses	12,797	355,639	621,688	923,507	1,084,636
Current Assets	517,783	10,232,876	23,059,663	41,728,821	62,590,922
Property and equipment Other Assets	9,059	8,624	8,449	8,380	8,352
Security Deposits	8,067	8,067	8,067	8,067	8,067
Total Assets	534,909	10,249,567	23,076,179	41,745,268	62,607,341
Liabilities & Shareholders' Fouity					
Liabilities & Shareholders' Equity  Accounts payables & accrued liabilities  Deferred income  Loans payable/ borrowings	459,592	844,693	1,347,356	2,050,456	
Accounts payables & accrued liabilities Deferred income Loans payable/ borrowings Related parties	5,356	5,356	5,356	5,356	2,507,702 5,356 2,513,058
Accounts payables & accrued liabilities Deferred income Loans payable/ borrowings					5,356 2,513,058
Accounts payables & accrued liabilities Deferred income Loans payable/ borrowings Related parties Current Liabilities Loans payable	5,356 464,948	5,356 850,049	5,356 1,352,712	5,356 <b>2,055,812</b>	5,356 2,513,058
Accounts payables & accrued liabilities Deferred income Loans payable/ borrowings Related parties Current Liabilities  Loans payable  Shareholder's Equity	5,356 464,948	5,356 850,049	5,356 1,352,712	5,356 <b>2,055,812</b>	5,356 <b>2,513,058</b> 347,698
Accounts payables & accrued liabilities Deferred income Loans payable/ borrowings Related parties Current Liabilities  Loans payable  Shareholder's Equity	5,356 464,948 347,698	5,356 <b>850,049</b> 347,698	5,356 1,352,712 347,698	5,356 2,055,812 347,698	5,356 <b>2,513,058</b> 347,698 25,223,271
Accounts payables & accrued liabilities Deferred income Loans payable/ borrowings Related parties Current Liabilities  Loans payable Shareholder's Equity Share Capital	5,356 464,948 347,698 25,223,271	5,356 <b>850,049</b> 347,698 25,223,271	5,356 1,352,712 347,698 25,223,271	5,356 2,055,812 347,698 25,223,271	



STATEMENTS OF CASH FLOWS (in US\$)- YE Dec 31st	2017E	2018E	2019E	2020E	2021F
Operating Activities					
Net earnings for the period	-3,962,150	9,329,556	12,323,950	17,965,989	20,404,827
Items not involving cash					
Depreciation	6,089	5,436	5,174	5,070	5,028
Trophy Bingo Amortization					
Gain on sale of domain name/others		100000			
	-3,956,061	9,334,992	12,329,124	17,971,058	20,409,854
Accounts Receivable	-46,792	-1,714,206	-1,330,245	-1,509,095	-805,648
Other Assets	15-50	374,000,000			
Prepaid Expenses	20,697	-342,841	-266,049	-301,819	-161,130
Security Deposits	•	3	1,500	Č.	100
Accounts payable and accrued expenses	367,966	385,101	502,663	703,100	457,246
Changes in working capital	341,871	-1,671,947	-1,093,631	-1,107,814	-509,531
Cash from (used in) operations	-3,614,190	7,663,045	11,235,492	16,863,244	19,900,324
Financing activities					
Proceeds from secured borrowings, net					
Private Placement	4,000,000				
Exercise of Stock Options					
Cash provided by financing activities	4,000,000	ı.	5550		
Investing activities					
Acquisition of Equipment	-5,000	-5,000	-5,000	-5,000	-5,000
Cash used in investing activities	-5,000	-5,000	-5,000	-5,000	-5,000
Increase (decrease) in cash	380,810	7,658,045	11,230,492	16,858,244	19,895,324
Cash beginning of period	60,190	441,000	8,099,045	19,329,538	36,187,782



#### 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.

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