

# Consumer behavior in online games

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- According to the report called “Online Game Market Forecasts”, revenue from online games on both consoles and PC is estimated to reach \$35 billion by 2018, up from \$21 billion in 2012 (DFC, 2013).



- Why do people decide to play games?
- What does make them happy and satisfied?
- Do all people value the same things or motivations depend on characteristics of a user?

# Why is it important?

- development of 'gamification'
- metric that will automatically show how the player feels

# Theoretical background

- Fun – engagement, deep involvement, player satisfaction, and entertainment (Murphy, 2011).
- Flow – a state of extreme focus of attention, when you are completely involved in the problem solving process and nothing can distract you from an activity (Csikszentmihalyi, 1990)
- Motivations - reasons for play
- Continued intention - loyalty

# Fun

- Thomas Malone (Malone, 1981): challenge, fantasy and curiosity
- ***Lazzaro – hard fun, easy fun, serious fun, people fun.***
- ***Raph Koster “Theory of fun” (Koster, 2005) “fun is really just another word for learning”***
- eight kinds of fun (sensation, fantasy, narrative, challenge etc.) from the MDA framework, standing for Mechanics, Dynamics, and Aesthetics (Hunicke et al, 2004)
- three dimensions of fun presented in (Read, 2002), such as endurability, engagement and expectations
- framework of thirteen pleasures of play (Costello et al., 2007).

# Flow

State of flow is possible if following conditions hold:

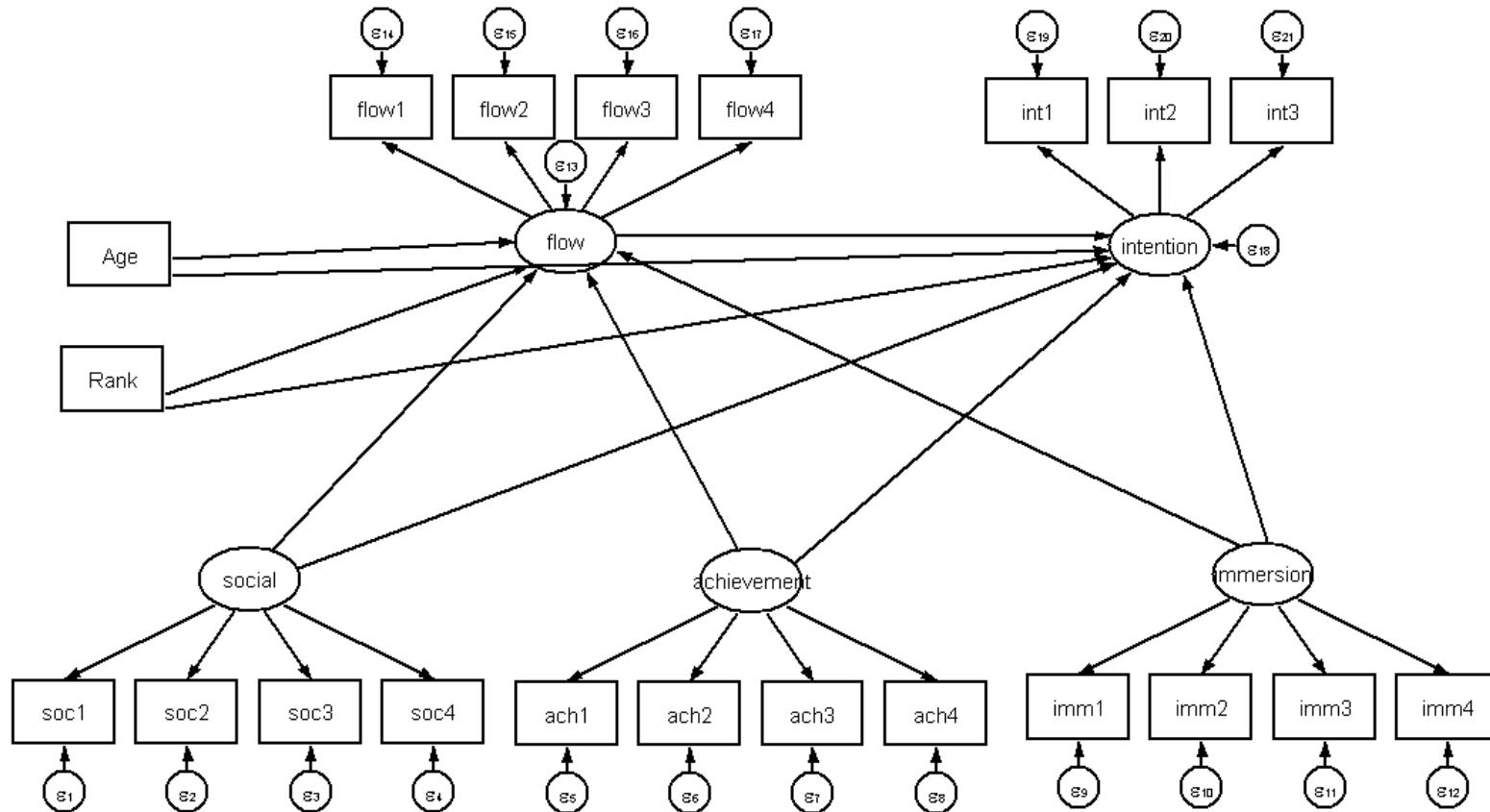
- task can be completed
- a player is concentrated
- goals are clear
- immediate feedback is available
- a player feels that everything is under control, he is involved in the process and doesn't have a sense of time
- (Csikszentmihalyi, 1990)

# Motivations

- Four types of players are included in the initial Bartle's model (Bartle, 1996): Socializers, Achievers, Killers and Explorers.
- Achievement, social, and immersion motivations (Yee, 2012).



# Research Model and Hypothesis



# Methodology

289 respondents

Measure	Min; Max	Mean	St. Dev.	Items	Frequency	Percentage, %
Age	Min – 8 Max – 69	24.94	12.36	8-15	86	29,8
				16-20	42	14,5
				21-25	31	10,7
				26-30	46	15,9
				>30	84	29,1
Experience (month)	Min – 1 Max – 62	18.27	15.74	<=12 (1 year)	135	46,7
				<=24 (2 years)	50	17,3
				<=36 (3 years)	62	21,5
				>36 (3 years)	42	14,5
Gender	-	-	-	Male	220	76,1
				Female	69	23,9
Hours a day	Min – 0.1 Max – 18	3.94	2.92	<=1	49	17,0
				2-3	109	37,7
				4-5	68	23,5
				>5	63	21,8
Days a week	Min – 1 Max – 7	5.25	1.98	1-2	40	13,8
				3-4	46	15,9
				5-6	78	27,0
				7	125	43,3



Payment in last thirty days	Min – 0 Max – 24303	283.1 6	1570.7 9	0 1-50 51-100 101-1000 >1000	206 13 16 39 15	71,3 4,5 5,5 13,5 5,2
Rank	-	-	-	Recruit	28	9,7
				Private –	74	25,6
				Sergeant-Major		
				Warrant Officer1	37	12,8
				– Warrant Officer5		
				Third Lieutenant	49	17
				– Colonel		
				Brigadier –	48	16,6
				Commander		
				Generalissimo	53	18,3

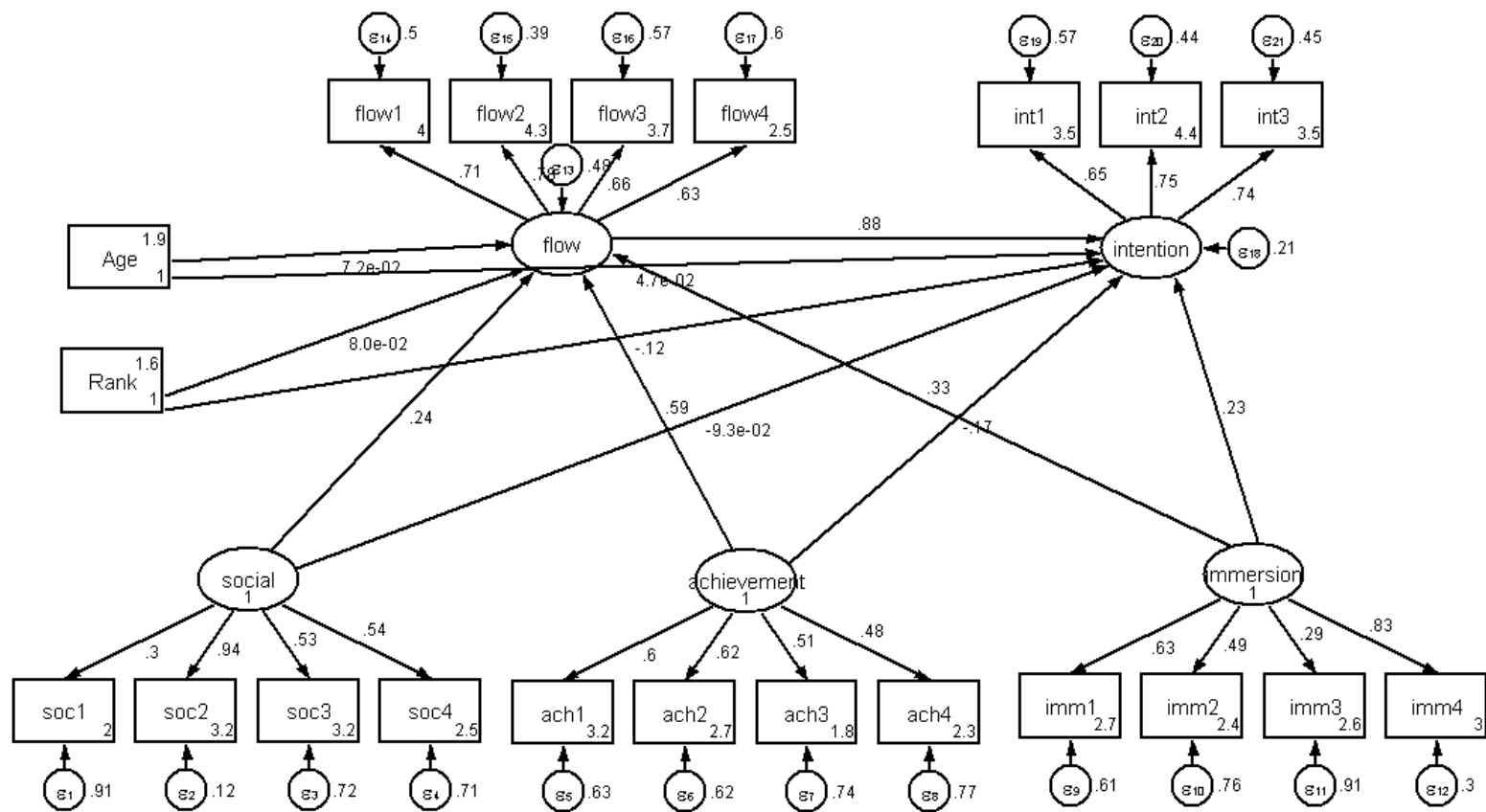
# Насколько для вас важно в игре

Achievement	Social	Immersion
Становиться сильнее	Болтать в чате, на форуме	Изучать все тонкости игры. Например, читать гайды и смотреть видеоблог.
Соревноваться с другими игроками	Играть с друзьями	Изучать новые карты
Участвовать в конкурсах	Участвовать в командных боях	Наблюдать, как развивается игра
Ловить голды	Общаться с людьми из разных стран и городов	Отвлечься

# Results

Constructs	Items	Cronbach's $\alpha$
Achievement	4	0.633
Social	4	0.658
Immersion	4	0.628
Flow state	4	0.822
Continued intention	3	0.779

CMIN/p	CMIN/df	RMSEA	SRMR	CD
0.000	4.84	0.115	0.179	0.994



Path	Estimate	p-value	Hypothesis testing
Achievement→flow	0.572***	0.000	Supported
Social→flow	0.372***	0.009	Supported
Immersion→flow	0.280***	0.000	Supported
Achievement→CI	-0.168	0.178	Not supported
Social→CI	-0.153	0.210	Not supported
Immersion→CI	0.204**	0.007	Supported
flow→CI	0.919***	0.000	Supported
Rank→CI	-0.012**	0.042	Supported (opposite direction)
Rank →flow	0.007	0.209	Not supported
Age→CI	0.004	0.383	Not supported
Age→flow	0.005	0.219	Not supported

flow = flow state; CI = continued intention to play the game; \*\*\* $p < 0.01$ ; \*\* $p < 0.05$ ; \* $p < 0.1$ .



Bartle's theory (Bartle, 2003):

**novices** are very **aggressive** and try to kill everyone;

then having tired of fighting, they **explore** the world;

gathered knowledge helps them to “**win the game**”;

the last stage is characterized by **absorption** in the world, **socializing** and **engaging** with the game.

# Experience

Path	Experience	
	<=12 month (n=127)	>12 month (n=162)
Achievement→flow	0.736***	0.518***
Social→flow	0.366	0.397**
Immersion→flow	0.174	1.331***
Achievement→CI	0.213	-0.377**
Social→CI	-0.319	-0.084
Immersion→CI	0.311***	0.037
flow→CI	0.615***	1.206***
Rank→CI	-0.018	-0.005
Rank →flow	0.035***	-0.006
Age→CI	0.008	-0.008
Age→flow	-0.0002	0.014**
p-comparison	p=0.0001	

# Results

- players get satisfaction from different dimensions of the game, such as achievement, socializing and immersion
- for all respondents: achievement influences flow state in the highest degree and is followed by motivations to socialize and be immersed in the game
- analysis for people with different experience proves Bartle's theory

# Limitations

- pilot research
- large sample for studying
- data about players' rank, age, gender and other characteristics in next research will be provided with the company and consequently will be more objective
- biased sample (average age – 24 years)