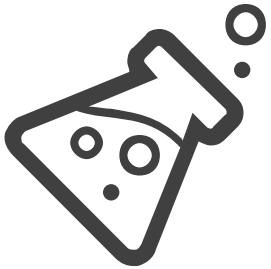

GAMER SEGMENT ANALYSIS

EXAMPLE REPORT

QUANTIC FOUNDRY

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OVERVIEW OF MOTIVATION MODEL






Action "Boom!"	Social "Let's Play Together"	Mastery "Let Me Think"	Achievement "I Want More"	Immersion "Once Upon a Time"	Creativity "What If?"
Destruction Guns. Explosives. Chaos. Mayhem.	Competition Duels. Matches. High on Ranking.	Challenge Practice. High Difficulty. Challenges.	Completion Get All Collectibles. Complete All Missions.	Fantasy Being someone else, somewhere else.	Design Expression. Customization.
Excitement Fast-Paced. Action. Surprises. Thrills.	Community Being on Team. Chatting. Interacting.	Strategy Thinking Ahead. Making Decisions.	Power Powerful Character. Powerful Equipment.	Story Elaborate plots. Interesting characters.	Discovery Explore. Tinker. Experiment.

AUDIENCE SAMPLE

For this player segment analysis, Quantic Foundry analyzed survey data from XXXX gamers from the following game titles and franchises:

- Game Title A
- Game Title B
- Game Franchise C
- Game Franchise D

We conducted cluster analysis on the audience data (both demographic and motivation variables) to identify distinct player segments within the audience.

See the Appendix for details on the clustering method, the data collection, and description of the motivations in our model.

	Duelists	Tacticians	World Designers
	 18%	 55%	 27%
Motto	“More than anything else, I like competing against other players, whether it’s a shooter, racing, or sports game.”	“I am focused on leveling up and accumulating power. I like gameplay where thinking and planning are rewarded.”	“I want a piece of an immersive alternate world that I can customize and where I can express myself.”
Demographic Sketch	Almost entirely men in their late teens and early 20s, with a high proportion of hardcore gamers.	A balanced mix of men and women in their mid-20s, most of whom identify as core gamers and a few as hardcore gamers.	Mostly women in their late 30s, with a high proportion of casual gamers.
Primary Motivations	Competition	Power + Strategy	Design + Fantasy
Popular Games	Game, Game, Game, Game Game, Game, Game, Game	Game, Game, Game, Game Game, Game, Game, Game	Game, Game, Game, Game Game, Game, Game, Game

DUELIST (18%)

"I Challenge You to a Fight!"

THE DUELIST

The Duelist is solely motivated by Competition, and seeks out game titles that allow them to challenge and compete against other players.

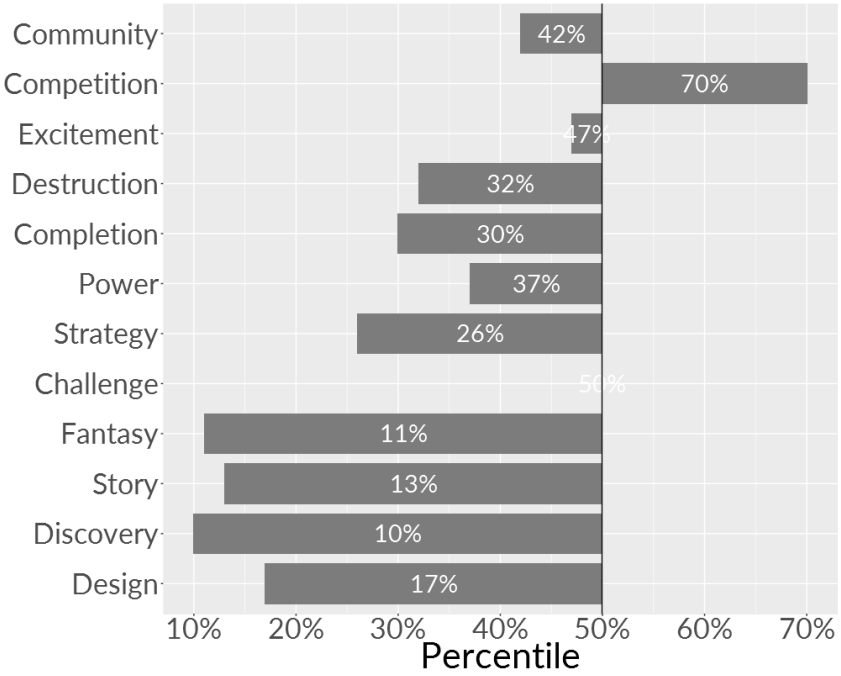
They score low on Community and thus focus on individual outcomes (i.e. personal glory), even when they are playing team-based games.

They have an average Challenge score, but a low Strategy score. Thus, they prefer games that are easy to get into, and without a lot of strategic depth that has to be mastered (that just gets in the way of a good fight).

Note that many of the games in the list revolve around 10-20 minute matches.

THE DUELIST

- **Gender**
  - Male: 94% / Female: 6%
  - Has a moderately lower proportion of female gamers
- **Age**
  - Median: 21
  - Mean: 20.40, SD: 1.68
- **Gamer Type**
  - Casual: 8% / Core: 64% / Hardcore: 28%
  - Has a slightly higher proportion of hardcore gamers
- **Gaming Frequency**
  - Typical number of days per week where they play games for more than 30 minutes
  - 0-1 day: 6%
  - 2-3 days: 14%
  - 4-5 days: 21%
  - 6-7 days: 59%
  - Plays slightly more days per week than average



Motivation Profile

- Is most interested in Competition (duels, matches, leader boards).
- Is least interested in Discovery (experiment, tinker, explore) and Fantasy (being someone else, somewhere else).

DUELIST POPULAR GAMES

Game	Score
osu!	7.6
FIFA 16	5.1
Counter-Strike: Global Offensive	4.9
FIFA (series)	4.6
Call of Duty: Black Ops II	4.6
Game Title	4.1
Game Title	3.5
Game Title	3.3
Game Title	3.1
Game Title	3.0

Game	Score
Game Title	2.9
Game Title	2.9
Game Title	2.4
Game Title	2.2
Game Title	2.2
Game Title	2.2
Game Title	2.2
Game Title	2.1
Game Title	2.1
Game Title	2.0

Score: The Score is an odds ratio calculated by dividing the frequency of each game in this sample by the baseline frequency.

This adjustment is necessary because the same highly popular games tend to be mentioned by every sub-group (e.g., World of Warcraft). By accounting for the baseline popularity, we can filter out this base rate bias and identify the most disproportionately popular games within the sub-group.

Thus, a QF Score of 2 would mean that this audience mentions a game as a favorite at twice the baseline frequency.

PLACEHOLDER PAGES

In an actual report, we would then provide the audience profile for each of the other player segments. These profiles (like the one for the Duelist) would contain:

- A descriptive sketch of what motivates this segment and how they compare with the other segments.
- The demographic profile
- The motivation profile chart
- The ranked list of games that are disproportionately popular within this segment.

APPENDIX

DETAILS OF SAMPLE & MOTIVATION FACTORS

HOW WE CREATED THE MOTIVATION MODEL

Literature Review

Underlying inventory items were generated based on a literature review of models and frameworks used in academia and industry. These include:

- Intuition/Observational models (e.g., Bartle's Player Types)
- Theory-driven models (e.g., PENS based on Self-Determination Theory)
- Factor analytic models (e.g., Sherry's Uses & Gratifications Model).

Factor Analysis

Factor analysis provides an empirical method for understanding how gaming preferences cluster together—which motivations are related and which motivations are relatively independent.

Data Collection & Model Iteration

We created an online app that allows gamers to take a 5-minute survey and receive a personalized motivation profile. We used factor analysis to iterate on inventory items until stable factors emerged and multiple high-loading inventory items were identified for each factor.

Validity

The assessment tool used for these motivations has high internal reliability (Cronbach's Alpha of .75 or higher), high test-retest reliability (r = .73), and correlates moderately well with theoretically-aligned personality traits on the Big 5 (a standardized personality assessment model used broadly in psychology research). See slide "Scale Validity/Reliability" for details.

SAMPLE NOTES

- 222,964 gamers (unique IP addresses)

- Gender: 81% Male / 18% Female / 1% Non-Binary
- Age: Median = 25, Range = 13-77
- Gamer Type: Casual 11% / Core 68% / Hardcore 21%
- Platform: PC 83% / Console 55% / Smartphone 35%

- Gamers recruited via Gamer Motivation Profile
  - Participants took a 5-minute survey to receive a customized report of their gaming motivations, and then could share their profile via social media.
  - No other incentive (financial or otherwise) was provided to respondents.
  - ~80% of our gamers were recruited via social media sharing of the gaming motivation profiles.

- Geographic distribution
  - US (100k), Canada (12k), United Kingdom (11k), Brazil (8.4k), Australia (7k), Indonesia (6.2k), Italy (6.2k), Poland (5.9k), Denmark (5.3k), Philippines (4.5k), Germany (3.7k), Sweden (3.6k), Singapore (3k), France (3k), Netherlands (2.4k), Russia (2.1k), Malaysia (2k), Spain (2k), Chile (1.8k), Turkey (1.8k), Norway (1.7k), Argentina (1.5k), Mexico (1.5k), Finland (1.3k), New Zealand (1.2k), Portugal (1.1k), South Africa (1k) …

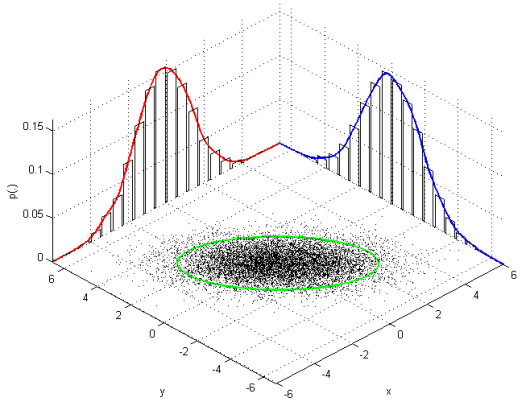
OVERVIEW OF CLUSTER ANALYSIS

To identify distinct personas, a clustering analysis was conducted.

- Based on our past experience with analyzing both survey data and behavior game data, we've found that typical centroid-based clustering algorithms have trouble with normally-distributed data with no clear cut boundaries. This pattern is typical of personality data, motivation data, and in-game behavior data.
- In these scenarios, we've found archetypes analysis to perform well and successfully identify distinct profiles.

The number of clusters (k) was based on a screeplot of repeated extractions.

- To decide on the number of clusters to extract, we calculated the residual sum of squares based on 8 repetitions of each cluster solution from k=1:12 clusters extracted.
- We then selected the number of clusters to extract based on the "knee" of the resulting screeplot.



It is difficult to use centroid-based clustering methods in the "cloud" of data typically seen with psychometric and in-game behavioral data.

DETAIL ACTION CLUSTER

Destruction	Excitement
Gamers who score high on this component are **agents of chaos and destruction**. They love having many tools at their disposal to blow things up and cause relentless mayhem. They enjoy games with lots of guns and explosives. They gravitate towards titles like *Call of Duty* and *Battlefield*. And if they accidentally find themselves in games like *The Sims*, they are the ones who figure out innovative ways to get their Sims killed.	Gamers who score high on this component enjoy games that are **fast-paced, intense, and provide a constant adrenaline rush**. They want to be surprised. They want gameplay that is full of action and thrills, and rewards them for rapid reaction times. While this style of gameplay can be found in first-person shooters like *Halo*, it can also be found in games like *Street Fighter* and *Injustice*, as well as energetic platformers like *BIT.TRIP RUNNER*.

DETAIL SOCIAL CLUSTER

Competition	Community
Gamers who score high on this component enjoy competing with other players, often in **duels, matches, or team-vs-team scenarios**. Competitive gameplay can be found in titles like *Starcraft*, *League of Legends*, or the PvP Battlegrounds in *World of Warcraft*. But competition isn't always overtly combative; competitive players may care about being acknowledged as the best healer in a guild, or having a high ranking/level on a Facebook farming game relative to their friends.	Gamers who score high on Community enjoy **socializing and collaborating with other people** while gaming. They like chatting and grouping up with other players. This might be playing *Portal 2* with a friend, playing *Mario Kart* at a party, or being part of a large guild/clan in an online game. They enjoy being part of a team working towards a common goal. For them, games are an integral part of maintaining their social network.

DETAIL MASTERY CLUSTER

Challenge	Strategy
Gamers who score high on Challenge enjoy playing **games that rely heavily on skill and ability**. They are persistent and take the time to practice and hone their gameplay so they can take on the most difficult missions and bosses that the game can offer. These gamers play at the highest difficulty settings and don't mind failing missions repeatedly in games like *Dark Souls* because they know it's the only way they'll master the game. They want gameplay that constantly challenges them.	Gamers who score high on this component enjoy games that require **careful decision-making and planning**. They like to think through their options and likely outcomes. These may be decisions related to balancing resources and competing goals, managing foreign diplomacy, or finding optimal long-term strategies. They tend to enjoy both the tactical combat in games like *XCOM* or *Fire Emblem*, as well as seeing their carefully-devised plans come to fruition in games like *Civilization*, *Cities: Skylines*, or *Europa Universalis*.

DETAIL ACHIEVEMENT CLUSTER

Completion	Power
Gamers with high Completion scores want to **finish everything the game has to offer**. They try to complete every mission, find every collectible, and discover every hidden location. For some players, this may mean completing every listed achievement or unlocking every possible character/move in a game. For gamers who score high on Design, this may mean collecting costumes and mounts in games like *World of Warcraft*.	Gamers who score high on this component strive for **power in the context of the game world**. They want to become as powerful as possible, seeking out the tools and equipment needed to make this happen. This may mean maxing stats or acquiring the most powerful weapons. Power and Completion often together, but some players enjoy collecting cosmetic items without caring about power, and some players prefer attaining power through strategic optimization rather than grinding.

DETAIL IMMERSION CLUSTER

Fantasy	Story
Gamers who score high on Fantasy want their gaming experiences to allow them to **become someone else, somewhere else**. They enjoy the sense of being immersed in an alter ego in a believable alternate world, and enjoy exploring a game world just for the sake of exploring it. These gamers enjoy games like *Skyrim*, *Fallout*, and *Mass Effect* for their fully imagined alternate settings.	Gamers who score high on Story want games with **elaborate storylines and a cast of multidimensional characters** with interesting back-stories and personalities. They take the time to delve into the back-stories of characters in games like *Dragon Age* and *Mass Effect*, and enjoy the elaborate and thoughtful narratives in games like *The Last of Us* and *BioShock*. Gamers who score low on Story tend to find dialogue and quest descriptions to be distracting and skip through them if possible.

DETAIL CREATIVITY CLUSTER

Discovery	Design
Gamers who score high on Discovery are **constantly asking "What if?"** For them, game worlds are fascinating contraptions to open up and tinker with. In an MMO, they might swim out to the edge of the ocean to see what happens. In *MineCraft*, they might experiment with whether crafting outcomes differ by the time of day or proximity to zombies. They "play" games in the broadest sense of the word, often in ways not intended or imagined by the game's developers.	Gamers who score high on this component want to **actively express their individuality** in the game worlds they find themselves in. In games like *Mass Effect*, they put a lot of time and effort in the character creation process. In city-building games or space strategy games, they take the time to design and customize exactly how their city or spaceships look. To this end, they prefer games that provide the tools and assets necessary to make this possible and easy to do.

SCALE VALIDITY / RELIABILITY

Factor	Cronbach α (n = 107,100)	Test-Retest (n = 84)	Big 5 Corr. (n = 1,134)
Destruction	.77	.62	
Excitement	.85	.78	E (.13)
Competition	.88	.77	E (.15)
Community	.85	.68	A (.24) / E (.20)
Challenge	.75	.84	
Strategy	.83	.75	C (.20) / N (-.15)
Completion	.84	.80	
Power	.78	.65	
Fantasy	.80	.70	O (.21)
Story	.87	.81	O (.21)
Design	.81	.78	O (.19)
Discovery	.77	.56	O (.25)

Summary

- Scale developed via iterative factor analysis and data collection.
- All factor items have internal reliabilities of .75 or higher.
- Average test-retest (1-month interval) correlation is .73. For comparison, average test-retest of Big 5 (BFI inventory) is .66. See: http://www.pnas.org/content/110/15/5802.abstract
- Correlations with Big 5 provides some evidence for construct validity.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