

Story 1

Introduction	The Data Analytics Cycle - QDAVI	QDAVI - Question	QDAVI - Data (Extraction tools)	QDAVI - Data (Types of data)	QDAVI - Data (Example)	QDAVI - Data (Example)
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This is not a visualization of data, but rather a story about how I analyse League of Legends data to discover useful information, draw conclusions, and support strategic decision-making in aid of team draft and game plan preparation.

The example I take here is the preparation of the QUT League of Legends Oceanic Developmental Tournament (ODT) Team in the ODT Split 2 2024 Promotion and Relegation game against the UQ Division 1 Team.

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When I first learned about data analytics in QUT, the approach that I was told to follow is the **QDAVI** data analytics cycle. This cycle involves:

1. Thinking about **Questions** we are interested in answering
2. Considering what **data** may be helpful in finding those answers
3. **Analysing** the data that has been well-extracted and cleaned
4. **Visualizing** that data for further interpretation
5. Identifying **insights** from the analytics to address our questions

These are very standard approaches that I follow when it comes to formal business data analysis, which involves addressing different business concerns and reporting to key stakeholders. In the League of Legends context, these approaches are still applicable, and I will go through them in the following session.



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The initial questions before diving into the data are not that complex:

1. To find out the playstyle of the team I'm scouting
2. What are the strengths and weaknesses of the team

Most of us believe that we can understand this through watching replays of games, making it unnecessary to look into the data. And I totally agree that watching replays can extract similar information, but data analysis allows us to extract more detailed information in a quick and organised manner. There are certain insights that are hard to discover if you purely look at replays, and vice versa for purely looking into data. So when I analyse data, I always go back to replays to verify my thoughts or to understand the meaning behind the data that I am interested in. **Watching replays and analysing data are both important.**

If you are detail-oriented, you will notice that I mentioned 'initial questions' in the previous paragraph. Throughout the entire analysis process, I will continue introducing new questions based on my observations of the data. This is a very important technique that allows me to drill deeper and deeper into understanding the team I'm analysing.



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Now let's move on to data. The major way for me to extract data is through API that directly communicates with the Riot server database. If you want to learn more about how to do that, you can check the Riot Developer Portal and gain more understanding through the community (I am able to learn a lot from the community with very little programming knowledge). I also utilise popular analytical sites such as OP.GG, Games of Legends, Fandom (Leaguepedia) or ReplayBook to facilitate my work.



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In terms of what kinds of data to extract, I usually focus on two parts. The first part is **past tournament match data of the team**, while the second part is **solo queue data**. The first part allows me to address questions such as the playstyle of the team. The second part enables me to understand what individual members are practicing recently and the performance of those champions in solo queue, allowing me to have more understanding of each player.

In terms of data types, there are many different data points that Riot allows you to extract through the API, even data such as 'how many times an ability has been casted' or 'how many pings a player has used'. Not everything is necessary; what you want to extract really varies with the questions you want to address.



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The following are general data points that I usually extract as they are comparatively more useful in most cases.

UQ Tournament Records Raw Data

Game ..	Side	Team..	Role	Summoner Name	Champion	Ban	K	D	A	KDA	Kpar	KS	D%	CS(Mini..
Game 1	Blue	UQ	TOP	ftr	KSante	Aurora1	9	4	10	4.75	48%	23%	19%	185
			JUNGLE	Luquhorijy	Brand	Swain3	11	7	22	4.71	83%	28%	33%	22
			MIDDLE	shyshyshy	Ahri	Jinx5	9	3	8	5.67	43%	23%	14%	210
			BOTTOM	Bot Incident	Zeri	No Ban	10	4	15	6.25	63%	25%	19%	248
			UTILITY	Caine	Leona	No Ban	1	3	24	8.33	63%	3%	14%	28
	Red	RMIT Black	TOP	Ai Nanasaki	Renekton	Evelynn2	4	8	10	1.75	67%	19%	20%	208
			JUNGLE	jen loves yin	Shyvana	Kindred4	4	7	9	1.86	62%	19%	18%	22
			MIDDLE	Bradlez	Tristana	Lillia6	10	9	4	1.56	67%	48%	23%	214
			BOTTOM	Fishbones	Ashe	No Ban	2	6	8	1.67	48%	10%	15%	215
			UTILITY	Arek	Braum	No Ban	1	10	11	1.20	57%	5%	25%	30
Game 2	Blue	SWIN	TOP	Littleluck	DrMundo	Lux1	1	5	1	0.40	29%	14%	19%	223
			JUNGLE	PI PI MA	Kindred	Camille3	3	6	2	0.83	71%	43%	22%	23
			MIDDLE	xyc mylovelywife	Galio	Aurora5	2	6	2	0.67	57%	29%	22%	130
			BOTTOM	Arcus	Zeri	No Ban	1	2	4	2.50	71%	14%	7%	199
			UTILITY	dionaea	Alistar	No Ban	0	8	5	0.63	71%	0%	30%	17
	Red	UQ	TOP	ftr	Renekton	Elise2	5	2	5	5.00	37%	19%	29%	191

After extracting raw data, I will examine it to see if there's any need for cleaning before processing. Common issues can occur such as the names of individual players not being properly displayed or some data being missing (as you can see here, we are only able to see the first phase ban). I will check and fix if there is an issue during the extraction or a server issue before moving on to analysis.

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In the analysis phase, I start by looking into specific data that can address my questions, and then observe if there's any abnormal data or trends.

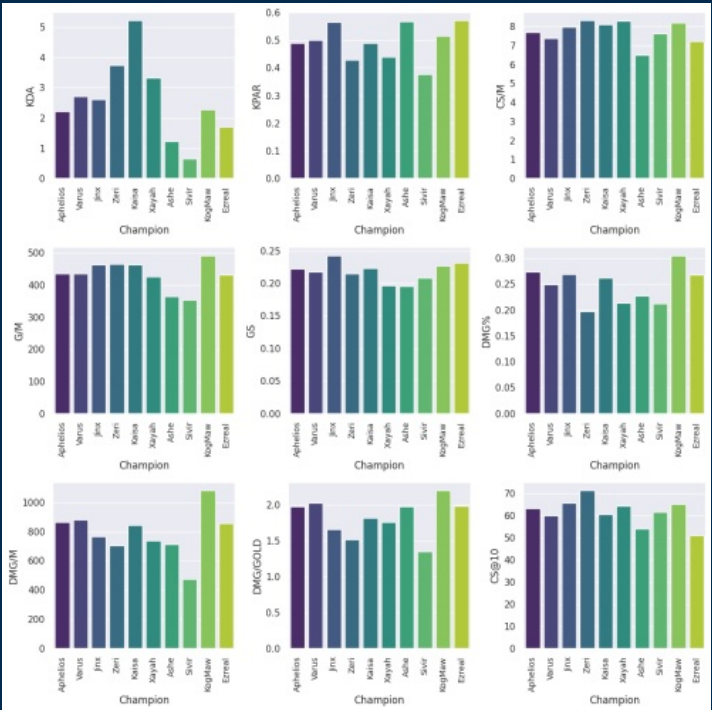
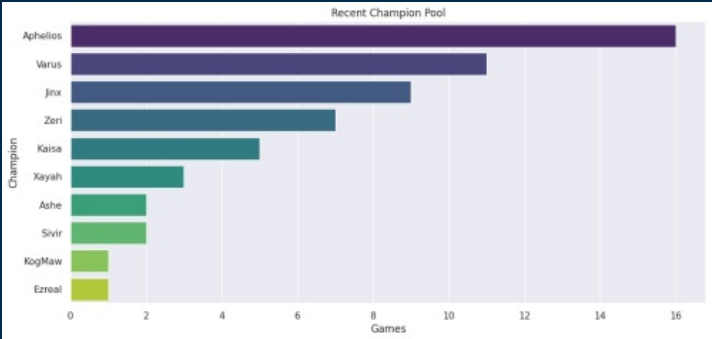
UQ Team Stat

Team Name	Role	Summoner Name	Game	Champion					Avg.	Avg.	Avg.			Avg.	Avg.
			Count	n Pool	Avg. KDA	Avg. K	Avg. D	Avg. A	Kpar	Fbpar	Dmg%	Avg. D%	Dmg/G..	Cs/M	
UQ	TOP	fttr	9	6	5.16	6	3	6	51%	11%	23.0%	24.0%	168%	7	
	JUNGLE	Luquhorijy	9	5	10.19	6	2	12	78%	56%	22.4%	17.8%	167%	7	
	MIDDLE	shyshyshyy	9	6	8.63	6	2	9	65%	33%	27.0%	19.0%	189%	8	
	BOTTOM	Bot Incident	7	4	7.65	6	3	9	59%	0%	20.1%	20.6%	145%	8	
		imp	2	1	7.50	2	2	8	52%	0%	15.7%	26.7%	113%	8	
	UTILITY	Caine	9	4	8.15	1	2	15	69%	11%	8.5%	17.2%	97%	1	

Take UQ's jungler as an example. We can notice he has a comparatively high KPAR (78%) and FBPAR (56%). I would then look back at replays and observe what leads to this phenomenon. From this, I understand that he loves to play carry jungle champions with an aggressive playstyle. He often utilises lane priority after a 3-wave crash to invade the enemy team's jungle. This makes our team more aware of potential invade whenever the UQ team performs a big wave crash into our turret, allowing us to pre-plan how to tackle this situation. We would also guarantee to keep track his presence in early to mid game as he is the major tempo generator of the team.

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I also check recent solo queue data for individual players to understand which champions they're preparing, how they're performing, and to discuss strategies with my team for specific matchups.

For example, the solo queue records of UQ's ADC in the past month show that he has practiced a lot of scaling ADCs like Aphelios, Jinx, and Zeri. This aligns with their team's playstyle of relying on early to mid-game jungle tempo and scaling compositions for victory, making it highly likely that he will pick scaling champions.

In addition, I visualise these data to potentially deduce the player's performance, confidence, and priority on different champions, making it easier for my team to understand and contribute to strategic planning.

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In the insights phase, we start forming conclusions about the team we scouted based on our understanding and begin preparing for our draft and game plan. From the previous analysis, we understand that:

1. UQ is a team that heavily relies on Jungler tempo in the early to mid-game.
2. Scaling compositions are one of the keys to their victory.

Insights we come up with:

1. We need to always keep track of the presence of UQ's Jungler in the early to mid-game and be prepared to tackle potential invades and plays from him.
2. Since scaling is one of their keys to victory, there are multiple approaches we can take to disrupt one of their usual win conditions: either prohibit them from utilizing similar compositions through our draft, pick aggressive lane compositions to try and win through the early game, or draft a scaling composition ourselves to neutralise their competitive edge.

Due to the length of this story, there are more deeper analysis and insights that lead to our team's decision-making in terms of draft preparation and in-game plans that I could not include here, and this is how I prepare for a League of Legends game with data.



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Thanks for following along with my story up to this point.

The reason I wanted to share my story is to provide deeper insights into how teams can utilise League of Legends data to make more strategic decisions—an approach often overlooked or rarely utilised. While not every team needs to conduct game analysis, the best teams always leverage it to gain a competitive edge.

Every analyst's approach is unique, and there is no one-size-fits-all standard.

My perspective comes from viewing the game as a data analyst. With organised league data, I can quickly draw insights that would originally require multiple hours of watching game replays or be hidden behind the scenes. It also provides more direction on what to look for while watching replays. No one has really taught me how to do this in a league environment, and there are certainly flaws and areas for improvement. However, I see this as an ongoing journey of learning and growth. Perhaps one day, I'll have the opportunity to learn from experienced analyst teams within pro leagues, and by then, I hope to share even more refined thoughts and techniques on how to elevate league data analysis.

See you all next time!

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