When it comes to team success, is it more important to have three very good players or to have a very good team core? And by team core, I mean the 12 next-best players on the team.

This question is perfectly suited to investigate using Productivity Rating (PR). PR will show which players were in the top three on their team in a season, and which are in the next twelve. With this data, we can rank the teams by their strength in the two categories and see how their strengths translated to regular season success.

### Handling Players Who Were Traded Mid-Season

Players who were traded mid-season have one PR-Score for the season but they played on two or more teams during the season. Daniel Sprong will serve as the example of how these players are handled. Sprong had a season PR-Score of 3.1112 (PR-Fringe), playing 15 games for Seattle and 47 for Washington. Sprong's PR-Score was apportioned to those two teams based on how many games he played for them. The Sprong who played is Seattle got a PR-Score of 0.7527, while the Washington Sprong got a PR-Score of 2.3585.

Sprong ranked  $21^{st}$  in Seattle and  $19^{th}$  in Washington. He didn't make the top fifteen for either team.

### **Study Details**

Only 2021/2022 regular season data was used. Traded players had their PR-Score apportioned to the teams they played for (see above) and then the data was sorted by team and PR-Score to identify each team's top three (T3) and next twelve (N12) players.

As regular season data was used, the focus of this study will focus on regular season results. But the Stanley Cup Finals are underway as this article is being written, and it's impossible not to peek at how the playoff teams did.

I'll first rank the teams in terms of their T3 players, next in terms of their N12 players. While the individual team scpres have no contextual information (is an N12 total of 61.48 good or bad or meh?), you'll be able to see the sums of all 32 teams in one place which will quickly give you all the context you need.

If you are a fan of les Habs, brace yourself. Looking at the total score of their best fifteen players (T<sub>3</sub> + N<sub>12</sub>), Montreal is a tidy  $31^{st}$ , slightly ahead of a team that is playing the next several years in a stadium that many Canadian Junior teams would be ashamed to use.

#### Team Rankings – Top 3 (T3)

	Top 3	
Team	PR	
EDM	31.55	
TOR	31.37	
COL	30.51	
CGY	29.71	
T.B	29.30	
NYR	28.93	
FLA	28.43	
BOS	28.21	
VAN	28.04	
NSH	27.98	
CHI	27.11	
PIT	26.45	
MIN	26.40	
DAL	26.37	
WSH	25.88	
S.J	25.61	
VGK	25.33	
WPG	24.94	
STL	24.90	
CAR	24.67	
DET	24.04	
L.A	23.67	
ANA	23.50	
BUF	23.46	
N.J	23.41	
CBJ	23.11	
NYI	22.31	
PHI	22.14	
ARI	21.63	
OTT	21.17	
MTL	20.31	
SEA	20.24	

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Edmonton, Toronto and Colorado have truly impressive T3 talent: the average PR-Score of their players would be in the PR-Elite category (PR-Score of 10 or more). Boston's top three players are all PR-Star players. A complete list of the T3 players for each team is in an Appendix in this document.

Matthew Tkachuk was the third best player for Calgary last season. His PR-Score would have put him in first on nineteen other teams.

Clearly, you can't win with just T3 talent: Vancouver and Chicago were 9<sup>th</sup> and 11<sup>th</sup> in T3 talent, but 19<sup>th</sup> and 28<sup>th</sup> in N12 talent, and that lack of depth dragged them down the standings.

It looks like regular season success is linked to T3 talent. Thirteen of the top sixteen T3 teams made the playoffs. Can N12 be more meaningful for a team? Let's find out.

#### Team Rankings – Next 12 (N12)

Teem	Next 12	
leam	PR	
STL	71.19	
FLA	71.17	
MIN	70.17	
CGY	68.96	
COL	68.47	
CAR	67.97	
T.B	67.03	
TOR	66.33	
NSH	66.25	
WPG	65.72	
DAL	63.82	
EDM	63.76	
PIT	63.16	
BOS	63.00	
CBJ	62.72	
NYR	61.51	
WSH	61.45	
N.J	61.14	
VAN	59.27	
VGK	58.64	
NYI	58.60	
L.A	56.97	
DET	56.89	
ANA	56.37	
OTT	55.84	
PHI	53.99	
SEA	53.71	
CHI	53.59	
MTL	52.60	
BUF	51.66	
ARI	50.63	
S.J	47.87	

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Subjectively, the N12 rankings seem right. All of the top N12 teams have ridiculously deep talent.

Fourteen of the top sixteen N12 teams made the playoffs. That's one small indication that N12 talent is more important than T3 talent.

Another piece of evidence comes from what happens if a team is in the top sixteen of only one of T3 and N12. As you would expect, the teams that were in the top sixteen of both T3 and N12 did very well in the standings, and those that were in the bottom sixteen for both did quite poorly. It's the middle two data lines of the next table that are telling.

Average Points					
T3 - N12		Average			
Top half?	Count	Points			
Yes - Yes	12	109			
No - Yes	4	99			
Yes - No	4	84			
No - No	12	73			

Four teams were in the top half of N12 only, and they averaged 99 points. Four teams were in the top half of T3 only, averaging 84 points. While this is a small number of data points in just one season, it is an indication that team depth is more important in the regular season.

#### Summary

The original question asked whether a team was better off with strong top-three talent or strong next-twelve talent. The best answer, it turns out, is "yes". A team is most likely to succeed in the regular season if it has strong T3 and strong N12 talent.

Neither T3 nor N12 talent can propel a team to success by itself, but in this last regular season, N12 talent was slightly more important to success than was T3 talent.

In the playoffs, the story may be different. The four semi-finalists were in the top six in the league for T3 talent ( $1^{st}$ ,  $3^{rd}$ ,  $5^{th}$ ,  $6^{th}$ ), but they were  $5^{th}$ ,  $7^{th}$ ,  $12^{th}$  and  $16^{th}$  in N12 talent.

I said "the story *may* be different" because this could have been a fluke season. Sometime in the future, I'll do this study for all seasons since

2007. There will be fifteen times more data, so the results will be more reliable. Who knows, maybe the team's top five players (3 forwards, 2 defensemen) are the most important group.

#### Ottawa's Top 3 was 30th Best?

Ottawa fans may not agree with their team's placement on the T3 list in particular: 30<sup>th</sup> out of 32 seems a bit low. I should point out that I am an Ottawa fan I was a little surprised by seeing the Senators place that low on the list.

I'm not going to change either the PR-Score formula or the method for T<sub>3</sub> just because I don't like one specific result: to quote Niels Bohr, the founder of the bizarre science of quantum mechanics, that ain't the way science works. (Not an actual quote.)

I wondered if there were any other sites which had player ratings for the 2021 season. I found two. What do they think of the Senators?

The first site didn't provide a rating for Artem Zub, Josh Norris or Tim Stutzle. Other Senator regulars were also unrated. The site opined that Andrew Agozzino, who played one game, was a better player than Nikita Zaitsev, Tyler Ennis and Chris Tierney. I must have missed that game. Given it had no rating for significant players and the ratings it had were obviously unreliable, I didn't care who it thought Ottawa's top three players were.

The other site had Ottawa's top three as Chabot, Tkachuk and a tie at third between Connor Brown and Josh Norris: Agozzino was nowhere in site. Its results seemed reasonable, but it must have a "per game" approach or maybe a future-looking aspect: it's the only way Chabot and Connor Brown could be ranked highly, given they both missed many games in 2021.

Stapled To The Bench has two player-rating systems, Value Rating (VR) and Productivity Rating (PR). Chabot has a higher VR than Tkachuk, but Tkachuk had a better 2021 PR than Chabot. When you are looking for which players had <u>the better season</u>, only PR-Score matters. I like the PR results better than the second site's results. Connor Brown is 7<sup>th</sup> in PR for Ottawa, with 4<sup>th</sup> through 6<sup>th</sup> being Artem Zub, Thomas Chabot and Nick Holden.

It would be impossible to argue that Ottawa's top three players <u>had better seasons</u> then the top three players on most of the other teams. It's the sort of argument a sportswriter would make: you have to rely on emotion and ignore the logic.

The <u>future</u> for Ottawa is bright, because its top three players (along with several others) are young and likely to improve in the coming years. When they finally make the playoffs (in the 2024 or 2025 season), their T3 and N12 ranking will be much better.

#### **T3 Players From Each Team**

The list below shows the top three players from each team, showing their total PR-Score.

T3 Players From Each Team							
Team	T3PR	First	Second	Third			
EDM	31.55	Connor McDavid	Leon Draisaitl	Darnell Nurse			
TOR	31.37	Auston Matthews	Mitchell Marner	Morgan Rielly			
COL	30.51	Cale Makar	Devon Toews	Mikko Rantanen			
CGY	29.71	Elias Lindholm	Johnny Gaudreau	Matthew Tkachuk			
T.B	29.30	Victor Hedman	Steven Stamkos	Mikhail Sergachev			
NYR	28.93	Adam Fox	Mika Zibanejad	Chris Kreider			
FLA	28.43	Jonathan Huberdeau	Aleksander Barkov	MacKenzie Weegar			
BOS	28.21	Charlie McAvoy	Patrice Bergeron	Brad Marchand			
VAN	28.04	J.T. Miller	Quinn Hughes	Elias Pettersson			
NSH	27.98	Roman Josi	Matt Duchene	Filip Forsberg			
CHI	27.11	Seth Jones	Alex DeBrincat	Patrick Kane			
PIT	26.45	Kris Letang	Jake Guentzel	Sidney Crosby			
MIN	26.40	Kirill Kaprizov	Kevin Fiala	Ryan Hartman			
DAL	26.37	Joe Pavelski	Roope Hintz	Jason Robertson			
WSH	25.88	John Carlson	Alex Ovechkin	Evgeny Kuznetsov			
S.J	25.61	Tomas Hertl	Brent Burns	Timo Meier			
VGK	25.33	Alex Pietrangelo	Shea Theodore	Chandler Stephenson			
WPG	24.94	Kyle Connor	Josh Morrissey	Mark Scheifele			
STL	24.90	Justin Faulk	Ryan O'Reilly	Pavel Buchnevich			
CAR	24.67	Sebastian Aho	Jaccob Slavin	Brady Skjei			
DET	24.04	Moritz Seider	Dylan Larkin	Tyler Bertuzzi			
L.A	23.67	Anze Kopitar	Phillip Danault	Adrian Kempe			
ANA	23.50	Cam Fowler	Troy Terry	Kevin Shattenkirk			
BUF	23.46	Rasmus Dahlin	Tage Thompson	Jeff Skinner			
N.J	23.41	Damon Severson	Nico Hischier	Jesper Bratt			
CBJ	23.11	Zach Werenski	Vladislav Gavrikov	Oliver Bjorkstrand			
NYI	22.31	Adam Pelech	Noah Dobson	Brock Nelson			
PHI	22.14	Ivan Provorov	Travis Sanheim	Claude Giroux			
ARI	21.63	Shayne Gostisbehere	Clayton Keller	Anton Stralman			
OTT	21.17	Brady Tkachuk	Josh Norris	Tim Stutzle			
MTL	20.31	Nick Suzuki	Jeff Petry	Alexander Romanov			
SEA	20.24	Adam Larsson	Yanni Gourde	Jared McCann			

Claude Giroux is the only player on this list that was traded mid-season. It has been a long time since a player of his caliber was traded mid-season.