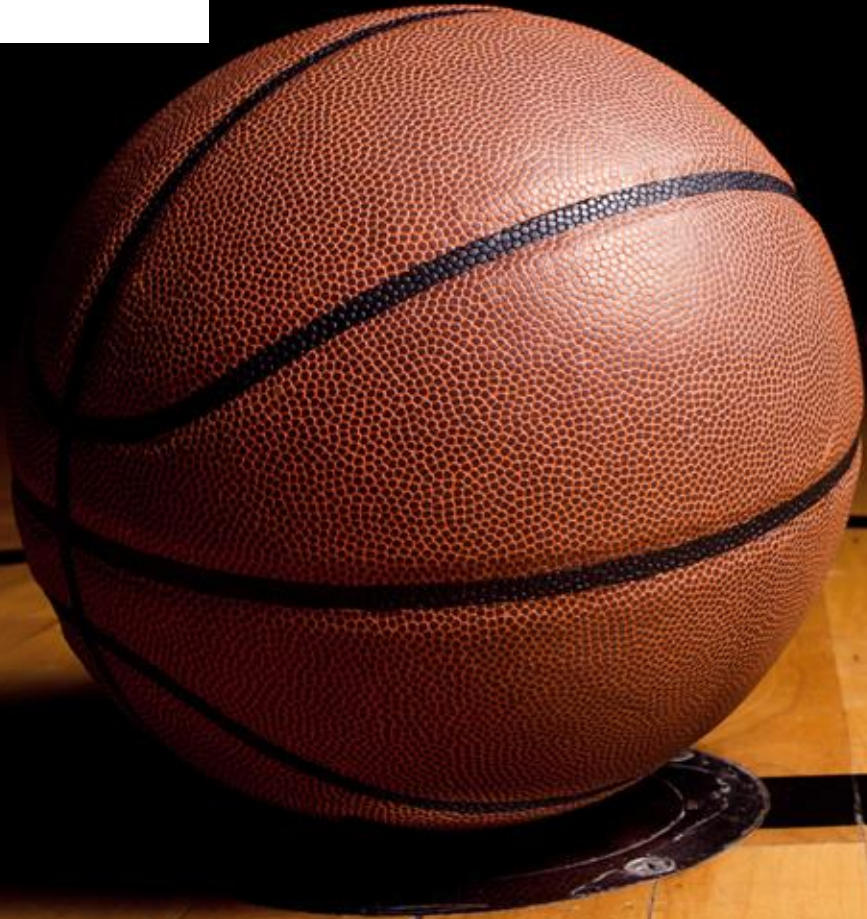




Memphis Grizzlies Statistical Analysis

Group #

Kevin Rius, John Yambor, Param Dagli, & Trevor



NBA Data (Excel Screenshot)

gmDate	gmTime	seasTyp	offLNm1	offFNm1	offLNm2	offFNm2	offLNm3	offFNm3	teamAbbr	teamConf	teamDiv	teamLoc	teamRslt	Team Result Binary	teamMin
10/17/2017	8:00	Regular	Forte	Brian	Smith	Michael	McCutchen	Monty	BOS	East	Atlantic	Away	Loss	0	241
10/17/2017	8:00	Regular	Forte	Brian	Smith	Michael	McCutchen	Monty	CLE	East	Central	Home	Win	1	240
10/17/2017	10:30	Regular	Maddox	Tre	Garretson	Ron	Foster	Scott	HOU	West	Southwest	Away	Win	1	239
10/17/2017	10:30	Regular	Maddox	Tre	Garretson	Ron	Foster	Scott	GS	West	Pacific	Home	Loss	0	241
10/18/2017	7:00	Regular	Davis	Marc	Boland	Matt	DeRosa	Joe	CHA	East	Southeast	Away	Loss	0	238
10/18/2017	7:00	Regular	Davis	Marc	Boland	Matt	DeRosa	Joe	DET	East	Central	Home	Win	1	239
10/18/2017	7:00	Regular	Cutler	Kevin	Brothers	Tony	Collins	Derrick	BKN	East	Atlantic	Away	Loss	0	241
10/18/2017	7:00	Regular	Cutler	Kevin	Brothers	Tony	Collins	Derrick	IND	East	Central	Home	Win	1	240
10/18/2017	7:00	Regular	Lane	Karl	Holtkamp	Lauren	Malloy	Ed	MIA	East	Southeast	Away	Loss	0	240
10/18/2017	7:00	Regular	Lane	Karl	Holtkamp	Lauren	Malloy	Ed	ORL	East	Southeast	Home	Win	1	240
10/18/2017	7:00	Regular	Guthrie	David	Taylor	Dedric	Zarba	Zach	PHI	East	Atlantic	Away	Loss	0	240
10/18/2017	7:00	Regular	Guthrie	David	Taylor	Dedric	Zarba	Zach	WAS	East	Southeast	Home	Win	1	240
10/18/2017	7:30	Regular	Goldenberg	Jason	Lindsay	Mark	Washington	Tom	MIL	East	Central	Away	Win	1	238
10/18/2017	7:30	Regular	Goldenberg	Jason	Lindsay	Mark	Washington	Tom	BOS	East	Atlantic	Home	Loss	0	240
10/18/2017	8:00	Regular	Twardoski	Scott	Zielinski	Gary	Corbin	Sean	NO	West	Southwest	Away	Loss	0	240
10/18/2017	8:00	Regular	Twardoski	Scott	Zielinski	Gary	Corbin	Sean	MEM	West	Southwest	Home	Win	1	240
10/18/2017	8:30	Regular	Tiven	Josh	Richardson	Leroy	Mauer	Ken	ATL	East	Southeast	Away	Win	1	241
10/18/2017	8:30	Regular	Tiven	Josh	Richardson	Leroy	Mauer	Ken	DAL	West	Southwest	Home	Loss	0	240
10/18/2017	9:00	Regular	Foster	Scott	Wood	Leon	Sterling	Jonathan	DEN	West	Northwest	Away	Loss	0	242
10/18/2017	9:00	Regular	Foster	Scott	Wood	Leon	Sterling	Jonathan	UTA	West	Northwest	Home	Win	1	241
10/18/2017	9:30	Regular	Fraher	Pat	Stafford	Derrick	Wall	Scott	MIN	West	Northwest	Away	Loss	0	240
10/18/2017	9:30	Regular	Fraher	Pat	Stafford	Derrick	Wall	Scott	SA	West	Southwest	Home	Win	1	240
10/18/2017	10:00	Regular	Orr	J.T.	Williams	James	Mott	Rodney	POR	West	Northwest	Away	Win	1	242
10/18/2017	10:00	Regular	Orr	J.T.	Williams	James	Mott	Rodney	POR	West	Pacific	Home	Loss	0	241



Study Background Information

- Grizzlies Ranked 2nd to last in most loyal fanbase during past 15 years (Bleacher Report).
- Grizzlies finished 2018 season with a record of 22-60, .268 (2nd worst in entire NBA).
- Fired Head Coach 19 games into season.

Grizzlies Data (Excel Screenshot)

teamAbb	team2P%	team3P%	teamFT%	teamASS	teamTO%	teamSTL%	teamBLK	oppt2P%	oppt3P%	opptFT%	opptASS	opptTO%	opptSTL	opptBLK	pace	teamRslt	Team Bin
MEM	0.4762	0.3103	0.5714	48.718	10.316	9.4361	8.441	0.4259	0.28	0.8276	50	17.154	4.2205	12.661	94.776	Win	1
MEM	0.52	0.3704	0.7838	55.556	13.05	8.1308	4.0654	0.4565	0.3158	0.8519	60.606	15.06	10.164	7.1145	98.391	Win	1
MEM	0.4694	0.3158	0.9189	55.172	12.464	6.4739	2.158	0.5897	0.2368	0.7391	78.125	17.123	5.3949	2.158	92.68	Win	1
MEM	0.5122	0.3871	0.6667	42.424	17.3	7.5819	2.1663	0.5208	0.4231	0.6897	55.556	11.252	6.4988	4.3325	92.325	Loss	0
MEM	0.5128	0.2941	0.8667	60	17.275	7.4517	6.3871	0.3667	0.2941	0.85	62.5	11.986	10.645	3.1936	94.332	Win	1
MEM	0.5	0.4242	0.75	65	9.0653	10.706	6.4234	0.3846	0.3684	0.8035	62.069	18.054	4.2822	3.2117	93.409	Win	1
MEM	0.4138	0.2286	0.8182	53.125	6.1125	6.9526	7.9459	0.4167	0.4118	0.7931	40.541	10.549	2.9797	6.9526	100.68	Loss	0
MEM	0.5577	0.3333	0.6875	53.846	14.418	12.348	3.087	0.5435	0.4483	0.8571	65.79	22.822	6.1741	8.2321	97.587	Loss	0
MEM	0.5094	0.4194	0.8333	52.5	11.261	8.579	7.5066	0.5965	0.538	0.7742	47.368	11.857	7.5066	7.5066	93.641	Win	1
MEM	0.58	0.2973	0.7857	57.5	11.411	5.954	6.9463	0.5345	0.3333	0.7826	62.5	16.649	4.9616	3.9693	100.77	Loss	0
MEM	0.5185	0.3684	0.84	51.429	15.152	8.6411	10.801	0.4839	0.3158	0.95	30.556	15.123	9.7213	1.0801	92.581	Win	1
MEM	0.5424	0.3	0.7778	60.526	18.706	9.0271	5.0151	0.5526	0.3556	0.75	48.649	14.373	14.042	4.0121	100.12	Loss	0
MEM	0.52	0.4231	0.8571	56.757	14.964	5.5538	1.1108	0.4667	0.5455	0.72	57.5	9.7087	6.6645	5.5538	90.029	Loss	0
MEM	0.6667	0.25	0.7727	65.909	13.553	5.0772	10.154	0.5082	0.5	0.9	67.442	11.342	6.0926	6.0926	99.307	Loss	0
MEM	0.4068	0.2593	0.7368	58.065	12.109	6.5995	7.6394	0.4857	0.4186	0.8095	60	15.498	8.7993	9.8992	90.916	Loss	0
MEM	0.4464	0.2667	0.7826	69.697	7.6834	6.2339	3.3508	0.3971	0.4	0.875	33.333	14.902	1.039	9.3508	95.453	Loss	0
MEM	0.5769	0.2414	0.9286	67.568	16.321	7.0771	6.0661	0.4762	0.3214	0.5	58.974	7.5443	9.0991	2.022	98.911	Loss	0
MEM	0.551	0.375	0.6875	77.778	18.36	10.707	3.2121	0.6596	0.2813	0.5769	60	18.844	9.6364	4.2829	93.395	Loss	0
MEM	0.4364	0.32	0.8889	46.875	13.736	9.1258	3.4222	0.4444	0.4483	0.8261	57.576	18.425	7.9851	7.9851	87.3	Loss	0
MEM	0.4364	0.5	0.875	60	16.825	4.5044	1.1261	0.5455	0.4	0.8333	57.895	12.3	10.135	5.6305	89.174	Loss	0
MEM	0.4237	0.3333	0.7778	63.333	16.34	8.9613	7.8411	0.4651	0.4074	0.6875	64.516	15.139	8.9613	5.6008	88.302	Loss	0
MEM	0.4918	0.5652	0.8571	72.093	12.602	6.3376	4.2251	0.6078	0.4583	0.913	57.143	11.444	8.4501	7.3939	94.28	Loss	0
MEM	0.549	0.2857	0.875	64.706	16.234	6.7431	8.9908	0.5	0.2353	0.9474	48.571	9.34	10.115	2.2477	89.352	Win	1
MEM	0.4048	0.4286	0.8182	48.276	15.843	9.1245	5.7028	0.4906	0.6429	0.7407	62.857	19.412	9.1245	3.4217	87.676	Loss	0
MEM	0.5818	0.3333	0.7273	58.537	15.642	8.693	3.2599	0.5106	0.4194	0.8788	56.757	10.626	8.693	3.2599	92.413	Loss	0
MEM	0.4727	0.3939	0.5882	58.974	13.577	5.2756	5.2756	0.4138	0.3529	0.5806	50	8.6475	8.4409	5.2756	85.513	Loss	0
MEM	0.4444	0.2963	0.6667	60.714	15.17	6.7469	1.1245	0.5897	0.5185	0.7917	64.865	15.459	8.9958	8.9958	88.93	Loss	0
MEM	0.3962	0.3571	0.9375	58.065	16.975	6.3246	2.1082	0.4909	0.4091	0.5	58.333	14.626	7.3787	8.4328	94.868	Loss	0
MEM	0.4528	0.48	0.7059	58.333	20.469	12.812	6.4061	0.4783	0.3871	0.875	79.412	16.825	12.812	5.3385	93.66	Win	1
MEM	0.4	0.4118	0.8824	56.25	13.933	9.1669	3.4376	0.5	0.4667	0.7143	53.846	16.479	6.8751	6.8751	87.271	Loss	0
MEM	0.3019	0.3871	0.8421	71.429	15.545	11.518	6.9105	0.5094	0.3333	0.88	76.471	15.842	10.366	9.214	87.554	Loss	0
MEM	0.5313	0.1923	0.75	38.462	9.3423	5.6283	7.8796	0.4182	0.3846	0.7778	63.636	9.7201	4.5026	1.1257	88.469	Loss	0
MEM	0.4576	0.4194	0.88	70	9.009	5.3241	5.3241	0.5652	0.3824	0.75	35.897	10.647	4.2592	7.4537	94.306	Win	1
MEM	0.4776	0.15	0.8276	34.286	9.1108	10.221	11.243	0.48	0.3636	0.7714	75	19.373	5.1103	5.1103	97.435	Loss	0
MEM	0.6	0.2381	0.8718	57.143	11.093	3.2521	9.7563	0.4154	0.2857	0.6364	40	10.04	5.4202	4.3361	92.248	Win	1
MEM	0.4658	0.7143	0.6818	59.184	7.1633	6.2055	0	0.6154	0.5455	0.92	74	9.434	3.1027	6.2055	95.89	Loss	0
MEM	0.587	0.4667	0.75	53.659	15.601	11.295	8.2147	0.4516	0.375	0.52	54.054	14.159	6.161	2.0537	97.387	Win	1
MEM	0.566	0.3077	0.6364	47.368	13.021	10.344	2.0688	0.625	0.3913	0.8387	58.974	18.333	5.1719	3.1031	96.676	Loss	0
MEM	0.4464	0.3333	0.7692	57.143	14.104	6.0821	9.1232	0.4035	0.3704	0.7647	63.636	12.394	7.0958	7.0958	98.24	Loss	0

Statistics Found

- Reviewed entire NBA statistical database (2017-2018 Season) to find the top 3 statistical measures that influence winning or losing for Memphis Grizzlies.
- 3 most influential stats for the Memphis Grizzlies:
 1. 3PT%
 2. 2PT%
 3. Blocks

Hypothesis Testing Slide (Formulas & Variables)

H0: B1 equals zero

H1: B1 does not equal zero

Team screenshot

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1 ^a	team2P%	13.777	8.078	2.909	1	.088	961751.685
	team3P%	10.213	5.423	3.546	1	.060	27250.795
	teamFT%	8.778	6.221	1.992	1	.158	6493.101
	teamASST%	-.012	.051	.058	1	.810	.988
	teamTO%	-.104	.154	.456	1	.500	.901
	teamSTL%	.318	.247	1.661	1	.197	1.375
	teamBLK%	.388	.192	4.099	1	.043	1.475
	pace	-.079	.129	.373	1	.541	.924
	Constant	-13.630	13.264	1.056	1	.304	.000

a. Variable(s) entered on step 1: team2P%, team3P%, teamFT%, teamASST%, teamTO%, teamSTL%, teamBLK%, pace.

- Team Block clearly rejects our null hypothesis
- However, as a team you cannot overlook team 2P% and team 3P%.

Opponent screenshot

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1 ^a	oppt2P%	-15.718	10.362	2.301	1	.129	.000
	oppt3P%	-33.607	12.479	7.253	1	.007	.000
	opptFT%	4.953	5.771	.737	1	.391	141.633
	opptASST%	-.063	.056	1.278	1	.258	.939
	opptTO%	.210	.219	.921	1	.337	1.233
	opptSTL%	.099	.190	.273	1	.601	1.104
	opptBLK%	-.268	.256	1.090	1	.296	.765
	Constant	16.361	8.062	4.119	1	.042	12744428.43

a. Variable(s) entered on step 1: oppt2P%, oppt3P%, opptFT%, opptASST%, opptTO%, opptSTL%, opptBLK%.

- Opponent 3P% rejects our null hypothesis and is significant to winning games.

Recommendations For Chris Wallace (GM)

- Hire a coach with strengths in defense and an offensive strategy in creating open 3-point shots to increase makes.
- Trade for a player that plays good defense and can shoot the 3-point shot at a high percentage (“3 & D guy”).
- Draft a “big man” PF or C with the #2 overall pick to improve Team Defense and TeamBlock% per game.

Recommendation 1 – New Coach

J.B. Bickerstaff

- Former Assistant Coach
- Interim Head Coach
- Known to be a “Player’s Coach”
- Known for defensive strategies



Mark Jackson

- Current NBA Analyst
- Former NBA Head Coach
- Known for defensive strategies
- Put “blueprint” in for GSW success



Recommendation 2 – Trade for Player





The Trade



ESPN NBA TRADE MACHINE

Feedback Start Over

This Trade is Successful!

Start Over Adjust Trade Save Trade

Memphis Grizzlies			Cap Room	Over Tax Line
			-\$10,817,491	-\$9,337,460
Player	Salary	PER		
 T. Johnson	\$5,881,260	13.1		
SG	3 Years			
 J. Winslow	\$2,705,040	11.6		
SF	2 Years			
Acquiring 2 Players		\$8,586,300		

Miami Heat			Cap Room	Over Tax Line
			-\$4,572,917	-\$15,488,671
Player	Salary	PER		
 J. Green	\$8,533,333	14.0		
PF	2 Years			
Acquiring 1 Player		\$8,533,333		

New Players

- Increase 3PT%
- Increase Defensive Efficiency
- Increase 2PT%
- Increase TeamBlock%

Recommendation 3 – Draft Player (#2 overall pick)

Marvin Bagley III

Stats/Improvements



- Height: 6-11
- Weight: 234lbs
- PPG: 21.0
- 3PT%: .397
- BLK%: 2.9
- 2PT%: .647

A photograph of a wooden basketball court floor. A curved black line, likely a free-throw line, is visible. The word "QUESTIONS?" is written in large, white, bold, sans-serif capital letters across the center of the image.

QUESTIONS?