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Example of statistical analysis of elite football carried out on the Chinese national team: GPS data linkage China-Iran and China-Qatar

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Abstract

In the following article we tried to enclose the improvements of the Chinese National Team from a numerical point of view, recordable in the transitional period going from the exemption of Gao Hongbo to the landing of Marcello Lippi for the 2018 Russian World Championship qualification. The data analysis takes into account both the specific aspect through the number of goal-kicks made and the ball possession, and the athletic aspect thanks to the kind concession of the Italian company K-Sport of interesting information such as the number of Km made by the two teams or the single player, or the number of acceleration at high speed, everything commented and contextualized on the basis of the game system.

Keywords: Analytics in soccer, K-Sport, China, Iran, Qatar, GPS

Introduction

Thanks to K-Sport Universal, a leading company in the field of football data collection with the use of GPS, in this article we had the opportunity to compare the physical/aerobic performance of the Chinese National Team during two matches for the 2018 Russian World Championship Qualification. Notably between the two matches analyzed there has been also the change of coach for the Chinese National Team (from Gao Hongbo to the Italian Marcello Lippi), change that led not only tactical modification but also different values from a physical point of view. Here below you can find the statistical analysis of the Chinese National Team against Iran and Qatar, going through the technical-tactical data of the match and reporting the aerobic values registered by GPS in the related matches. We will particularly focus on the research of differences and similarities between the two matches, trying to understand the different extent of the performances.

Means and Methods

The analysis starts with the entering of the technical data of the first game played in Shenyang by China and Iran when the coach sitting on the bench still was the Chinese Gao Hongbo. As we will see later on in spite of the game result (0-0) the Iran team had been more persuasive thanks to a strong spacial dominance and to the goal opportunities, then confirmed also by the GPS analysis for what concerns the athletic values. The second match analyzed will be the one played by Qatar and China when there has been the change on the bench for the Dragons' Team with the arrival of the Italian Marcello Lippi. Even though the game result is the same of the previous match the data will confirm a discrete improvement of the Chinese team, which will dominate the statistics of kicks and ball possession by taking advantage of the lower class competitors, showing then similar values to those of Qatar from an athletic point of view.

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Results and discussion

- China-Iran: 0-0



China



Iran

- **Competition:** Asia World Cup Qualification
 - **Date:** 6 September 2016
 - **Kick-off:** 13:35
 - **Halftime:** 0-0
 - **End Second Time:** 0-0
 - **Stadium:** Shenyang Olympi Sports Enter Stadium
 - **Audience:** 3577



Fig 3: Starters

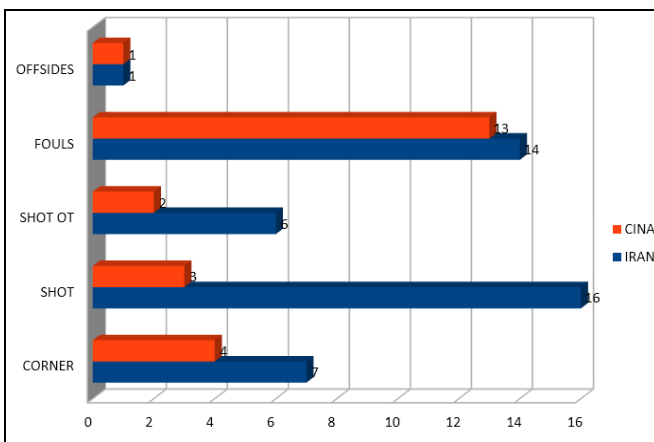


Fig 1: Statistics of match

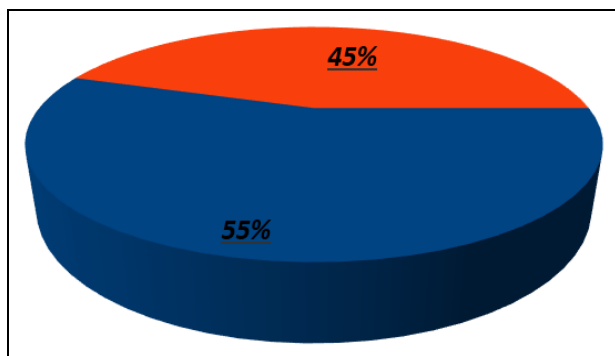


Fig 2: Possession ball (%)

Gps data confirm the match trend and the statistic values before mentioned, indeed the Iranian team not only run 600 m more than the competitors (10,453 km vs 9,882 km of the Chinese team) but also made a higher number of sprint (19 vs 13). The Iranian team has been better also in the maximum speed percentage (15, 7% vs 12, 8 of the Chinese) and in the distance/minute (107 vs 101 for the Iranian). In the specific, the Iranian National team includes 5 players with more than 10 km run while China just 2, the best representative for Iran is Jahan with 11, 17 km covered and 35 sprint made running 430 m over 24 km/h. Amiri on the other hand, with his 21, 5%, is the player with the best percentage of top speed. The Iranian player making more speed-up and deceleration is Milad with 369 acceleration and 337 deceleration. In the Chinese team Zhao Ming Jian is the player running more km with his 10,094, while Yu Hai is the one making more sprint (25), both of them still far from the best Iranian representatives. Yuning Zhang is the Chinese player able to keep the best percentage at high speed, with a 15, 9%, and the one making the highest number of speed-up (364) and deceleration (310).

- Gps China Data ^[4]

Table 1: Data analysis through GPS information supplied by K-Sport

	Dist.	Dist / min	> 16 km/h High speed(m)	> 2 m/s/s High accel.(m)	- < 2 m/s/s High decel.(m)	% High speed	% High acc	% High dec	>24 km/h Sprint(m)	>24 km/h N° Sprint	> 2 m/s/s N° Acc	- < 2 m/s/s N° Dec
Team Average	9882	101	2195	608	530	12,8	6,1	5,3	153,92	13	275	264,21
Bowen	6276	107	846	327	322	13,5	5,2	5,1	110,16	8	161	173
Cheng	492	43	8	26	19	1,5	5,3	3,9	0	0	14	15
Gu	5284	62	75	291	232	1,4	5,5	4,4	0	0	160	168
Hai	10085	104	1517	619	570	15	6,1	5,7	201,65	25	263	283
Ke	2046	141	498	182	156	24,3	8,9	7,6	39,98	5	68	64
Lei	9674	99	1327	741	637	13,7	7,7	6,6	318,42	21	332	314
Linpeng	9397	96	1071	465	415	11,4	4,9	4,4	99,88	10	213	211
Ren	9787	100	1515	657	575	15,5	6,7	5,9	131,58	11	297	292
Xiaoting	8483	87	774	490	426	9,1	5,8	5	140,18	7	229	210
Xizhe	4749	123	784	309	263	16,5	6,5	5,5	50,52	6	134	117

Yuning	9797	118	1560	808	662	15,9	8,2	6,8	106,75	14	364	310
Zhao	10094	104	1307	527	467	12,9	5,2	4,6	162,11	10	243	228

• Gps Iran Data

Table 2: Data analysis through Gps information supplied by K-Sport

			> 16 km/h	> 2 m/s/s	- < 2 m/s/s				>24 km/h	>24 km/h	>2 m/s/s	- < 2 m/s/s
	Dist.	Dist/min	High speed (m)	High accel. (m)	High decel. (m)	% High speed	% High acc	% High dec	Sprint (m)	N° Sprint	N° Acc	N° Dec
Team Average	10453	107	1667	626	549	15,7	6	5,2	236,91	19	273	260,35
Amiri	8209	110	1764	447	403	21,5	5,4	4,9	390,35	23	180	190
Azmoun	8932	92	1221	460	418	13,7	5,1	4,7	271,17	22	195	183
Beiranv.	5815	60	58	313	265	1	5,4	4,5	0	0	183	200
Ezatolahi	10477	108	1084	525	438	10,3	5	4,2	41,38	6	242	225
Ghoocha.	2293	132	450	139	122	19,6	6	5,3	51,02	6	54	54
Hosseini	7279	97	721	384	293	9,9	5,3	4	37,69	4	182	155
Jahan	11170	115	2175	786	758	19,5	7	6,8	429,96	35	330	342
Milad	10784	111	1915	846	696	17,8	7,8	6,5	388,52	28	369	337
Montarzi	1944	87	215	124	97	11,1	6,4	5	11,08	2	59	50
Pouralig.	9916	102	1358	605	524	13,7	6,1	5,3	102,69	8	267	255
Rezaian	10916	112	2241	567	569	20,5	5,2	5,2	358,93	32	244	255
Shojaei	9293	116	1679	653	590	18,1	7	6,4	136,98	11	283	279
Timotian	10359	106	1297	567	441	12,5	5,5	4,3	81,21	10	265	213
Torabi	2726	129	517	146	131	19	5,4	4,8	63,93	6	52	60

• China-Qatar: 0-0



China



Qatar

- **Competition:** Asia World Cup Qualification
 - **Date:** 15 November 2016
 - **Kick-Off:** 13:35
 - **Halftime:** 0-0
 - **End Second Time:** 0-0
 - **Stadium:** Kunming Tuodong Sports Center
 - **Audience:** 3276

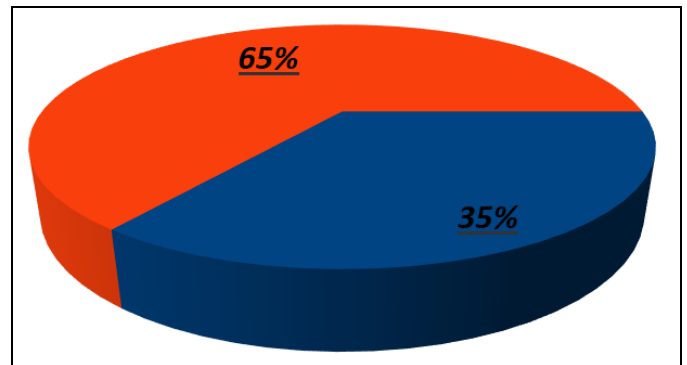


Fig 2: Ball Possession (%)

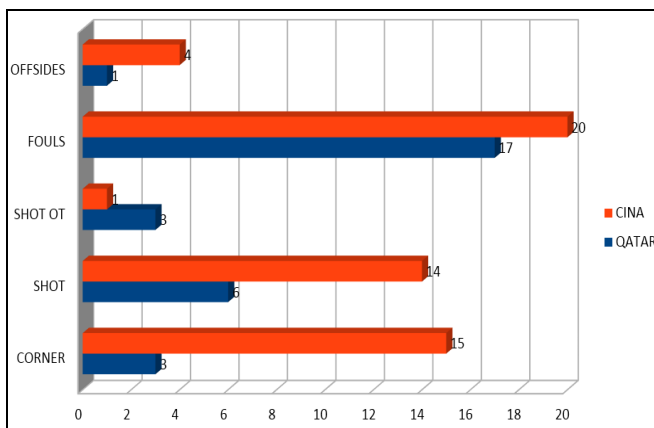


Fig 1: Statistics of the match



The new coach Marcello Lippi fields the team with a real 4-3-3, by including Zang Xizhe on the left with the task of reaching the centre to serve the striker, for the defensive midfielder bids on the expert Zheng Zhi and on Xi Wu, Mei Fang for the defensive role and trust on the SIPG goalkeeper Yan Junling. Even though this match ends with a result of 0-0, the China team greatly improved its performance and

statistics, for sure this is an effect of the change of coach and of the lower class of the competitor. China indeed prevails for corner kicks (15 vs 3) for total kicks (14 vs 6) and for the ball possession (65% vs 35%).

- Gps China Data

Table 3: Data analysis through Gps information supplied by K-Sport

			> 16 km/h	> 2 m/s/s	- < 2 m/s/s				>24 km/h	>24 km/h	> 2 m/s/s	- < 2 m/s/s
	Dist.	Dist/ min	High speed	High accel.	High decel.	% High speed	% High acc	% High dec	Sprint	N° Sprint	N° Acc.	N° Dec.
Team Average	9888	103	1375	558	478	13,7	5, 6	4, 8	212, 64	16	241	224, 58
Bowen	8504	101	1003	366	269	11, 8	4, 3	3, 2	106, 18	7	179	143
Dabao	9805	102	1051	475	419	10, 7	4, 8	4, 3	162	9	227	220
Fang	9805	102	1051	475	419	10, 7	4, 8	4, 3	162	9	227	220
Junling	6640	69	170	226	165	2, 6	3, 4	2, 5	7, 48	1	110	96
Lei	6835	104	958	408	377	14	6	5, 5	296, 76	16	167	162
Linpeng	10354	108	1559	609	521	15, 1	5, 9	5	236, 86	18	251	240
Xi	10085	105	1585	574	570	15, 7	5, 7	5, 7	276, 5	20	238	250
Xiaoting	8495	89	633	396	315	7, 5	4, 7	3, 7	86, 68	7	193	168
Xizhe	9694	101	1352	571	484	13, 9	5, 9	5	122, 57	13	243	243
Yunding	3267	106	590	205	170	18	6, 3	5, 2	114, 81	8	79	68
Yuning	8375	111	1355	497	423	16, 2	5, 9	5, 1	192, 22	13	218	202
Zhi	9742	101	1324	566	446	13, 6	5, 8	4, 6	155, 14	14	249	206
Zhipeng	10163	106	1779	735	631	17, 5	7, 2	6, 2	302, 32	24	301	285

- Gps Qatar Data

Table 4: Data analysis through Gps information supplied by K-Sport

			> 16 km/h	> 2 m/s/s	- < 2 m/s/s				>24 km/h	>24 km/h	> 2 m/s/s	- < 2 m/s/s
	Dist.	Dist/ min	High speed	High accel	High decel.	% High speed	% High acc	% High dec	Sprint	N° Sprint	N° Acc.	N° Dec.
Team Average	9904	103	1545	560	469	15,2	5,6	4,7	212, 19	17	242	212,96
Ahmed	1972	104	391	122	100	19,8	6,2	5,1	79,28	7	39	38
Boudiaf	10992	114	1748	455	428	15,9	4,1	3,9	112, 22	9	198	184
Correia	8904	93	1080	541	445	12,1	6,1	5	182, 81	14	263	216
Haydos	8814	114	1867	617	492	21,2	7	5,6	245, 61	21	253	221
Ismail	729	106	89	41	19	12,2	5,6	2,7	6,14	1	17	7
Junior	11041	115	2096	699	584	19	6,3	5,3	282, 52	22	302	267
Kasola	8947	93	822	384	316	9,2	4,3	3,5	165, 69	11	190	146
Khoukhi	7686	80	680	332	261	8,8	4,3	3,4	62,89	5	161	128
Majed	9972	104	1537	563	463	15,4	5,6	4,6	148, 56	12	238	210
Musa	9327	105	1711	541	507	18,3	5,8	5,4	325, 84	26	229	240
Sheeb	5496	57	62	264	208	1,1	4,8	3,8	0	0	155	146
Suna	9755	102	1546	552	429	15,8	5,7	4,4	329, 09	21	220	193
Tabata	4302	116	991	364	330	23	8,5	7,7	89,35	11	138	134
Thaimn	6564	111	887	384	317	13,5	5,8	4,8	91,2	9	169	145

Gps values seem to define an equilibrium between the two teams from a physical point of view, that was likely easy to happen considering the short time past from the last match against Iran (just a pair of months earlier), in this match China shows 3 players with more than 10 km covered while Qatar only 2. The two teams are also equivalent for the medium number of Sprint made (17 vs 16 for Qatar), for the distance covered per minute (103 m both) and for the percentage of maximum speed (15, 2% for Qatar and 13, 7% for China). The Chinese player running more km is the fullback of Guangzhou Evergrande, Zhang Linpeng, with 10,354 km, while the Qatari with the highest number of km covered is Junior with 11,041 km. For what concerns the number of Sprints made, the Chinese player who made most of them is Zhipeng, left defender of Guangzhou R&F with 24 Sprints, while the best representative for Qatar is Musa with 26 sprints per match. In the case of percentage of highest speed, the best representatives for the two teams are: Zhipeng with 17, 5%

for China and Musa with 18, 3% for Qatar. Finally the best representatives of the two teams for the number of speed-up and deceleration: Zhipeng with 301 speed-up and 285 decelerations and Junior with 302 speeds-up and 287 decelerations.

Conclusions

The two games, even with the same result, show great differences from the technical-tactical point of view: while in the first match China has been dominated by an Iran undoubtedly deserving to win, it was not the same in the second match against Qatar, where the team of the new coach Marcello Lippi for sure deserved much more if it didn't fail many occasions of goal. From the physical point of view China has shown values similar in both games, but differences were also clear, it can be noticed indeed as in the challenge against Qatar aerobic values were similar while in the first game against Iran, China suffered the higher technical level of

the competitors and showed big difficulties in the physical-aerobic competition, the Middle Eastern players produced better statistics in all items available (distance covered by the team, player's average, highest number of sprint, highest number of speed-up,...). In view of these data we can analyze the considerable improvement of the Chinese National team against Qatar compared to the last game against Iran, if not from the physical point of view, the improvement of course is noticeable from the mental, technical-tactical point of view and for what concerns the performance, without forgetting the different technical levels of the two teams faced-up. It is assumed that this improvement is due to the change of coach.

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