

資料探勘

NBA球星表現與球隊勝率之影響

組 別：第五組

指導教授：趙景明 教授

學 生：陳重佑、汪詩典

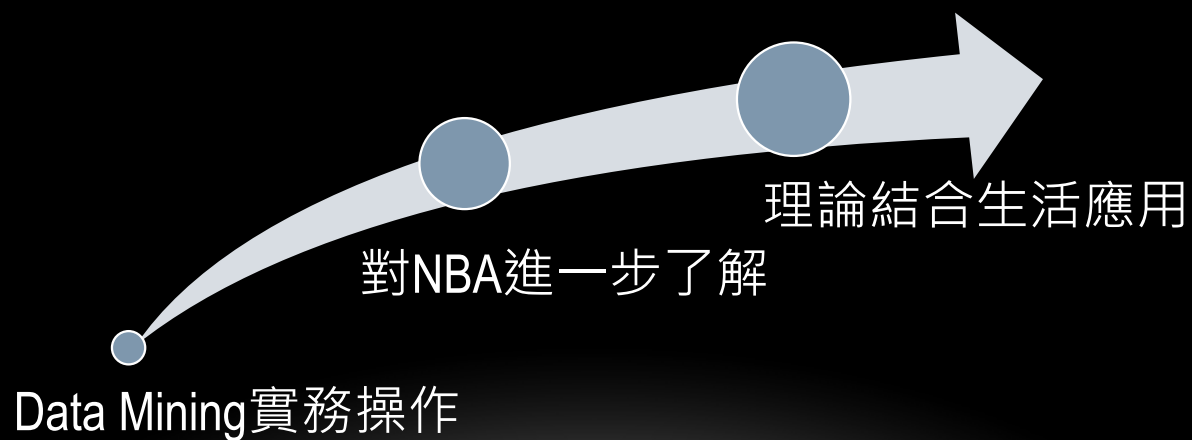
余業達、胡尊奕、楊若榆



目錄

- 研究之動機
- 研究之方法
- 研究之結果
- 成果之驗證
- 成果之應用





研究動機



將資料製成Excel→匯入Poly Analyst

將資料從Client端傳至Server端

從Server端之資料庫取得資料

製成圖表，將球隊分群並分析

運彩預測

研究方法



研究方法(續)

PolyAnalyst Client 6.0 - NBA - [MilwaukeeBucks.csv]

File Edit View Settings Window Help

Node panel

Brandwatch Source

CSV Source

Dataset Link

E-Mail Archive

E-Mail Source

FTP Source

Files

Internet Source

Microsoft Access

Microsoft Excel

ODBC Source

OLEDB Source

RSS Source

Column Operations

Bin

Categorize Binaries

Consolidate

Derive

Extract Terms

Filter Columns

Model Union

Modify Columns

Partition

Replace Categories

Replace Terms

Score

Row Operations

Based Sample

Distinct

Filter Rows

Sample

Sort Rows

Table Operations

ABC XYZ Analysis

Aggregate

Expand Transactions

Export to File

Export to ODBC

Generic Dataset

Join

Make Transactions

Merge

Reshape

Data Analysis

Basket Analysis

Bayes Network

CHAID

Case-Based

Clustering

Correlation Analysis

Data Audit

Decision Tree

Discriminant Basket An

Distribution Analysis

Factor Analysis

Record 0 of 82

Data Statistics Distinct

Task list

Name	Progress Bar	Message	Started	Elapsed
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球队	% 胜率	1.5 国...	1.5 国...	1.5 国...	1.5 国...	1.5 国...	1.5 国...	1.5 国...	1.5 国...	1.5 国...	1.5 国...	1.5 国...	1.5 国...	1.5 国...	1.5 国...	1.5 国...	1.5 国...	1.5 国...	1.5 国...
MilwaukeeBucks	yes	36.00	85.00	0.42	10.00	27.00	0.37	13.00	18.00	0.72	17.00	36.00	53.00	18.00	5.00	3.00	12.00	11.00	95.00
MilwaukeeBucks	no	42.00	100.00	0.42	12.00	35.00	0.34	15.00	23.00	0.65	18.00	26.00	44.00	25.00	10.00	6.00	11.00	24.00	111.00
MilwaukeeBucks	no	34.00	87.00	0.39	9.00	29.00	0.31	8.00	12.00	0.67	9.00	27.00	36.00	23.00	6.00	3.00	12.00	20.00	85.00
MilwaukeeBucks	no	38.00	92.00	0.41	17.00	33.00	0.52	11.00	16.00	0.69	13.00	35.00	48.00	27.00	14.00	4.00	18.00	19.00	104.00
MilwaukeeBucks	no	39.00	101.00	0.39	8.00	28.00	0.29	17.00	26.00	0.65	15.00	41.00	56.00	26.00	7.00	11.00	12.00	16.00	103.00
MilwaukeeBucks	no	33.00	76.00	0.44	9.00	25.00	0.36	8.00	14.00	0.57	5.00	37.00	17.00	14.00	17.00	2.00	14.00	15.00	83.00
MilwaukeeBucks	yes	36.00	76.00	0.47	6.00	19.00	0.32	22.00	29.00	0.76	9.00	31.00	40.00	27.00	11.00	12.00	15.00	22.00	100.00
MilwaukeeBucks	no	29.00	76.00	0.38	12.00	30.00	0.40	13.00	18.00	0.72	8.00	32.00	40.00	16.00	5.00	2.00	13.00	16.00	83.00
MilwaukeeBucks	no	42.00	96.00	0.44	8.00	23.00	0.35	6.00	9.00	0.67	20.00	25.00	45.00	19.00	10.00	9.00	19.00	15.00	98.00
MilwaukeeBucks	yes	51.00	100.00	0.51	14.00	27.00	0.52	15.00	17.00	0.88	14.00	31.00	45.00	32.00	7.00	2.00	10.00	21.00	131.00
MilwaukeeBucks	no	37.00	98.00	0.38	12.00	29.00	0.41	13.00	15.00	0.87	19.00	26.00	45.00	24.00	7.00	2.00	9.00	20.00	99.00
MilwaukeeBucks	yes	45.00	93.00	0.48	7.00	19.00	0.37	16.00	22.00	0.73	15.00	28.00	43.00	22.00	12.00	4.00	12.00	25.00	113.00
MilwaukeeBucks	no	37.00	89.00	0.42	6.00	24.00	0.25	12.00	13.00	0.92	14.00	30.00	44.00	18.00	9.00	3.00	14.00	9.00	92.00
MilwaukeeBucks	no	42.00	92.00	0.46	5.00	21.00	0.24	10.00	18.00	0.56	19.00	31.00	50.00	26.00	6.00	5.00	15.00	17.00	99.00
MilwaukeeBucks	no	31.00	101.00	0.31	3.00	19.00	0.16	13.00	22.00	0.59	22.00	30.00	52.00	17.00	4.00	6.00	8.00	21.00	78.00
MilwaukeeBucks	no	37.00	99.00	0.37	8.00	19.00	0.42	8.00	11.00	0.73	16.00	30.00	46.00	20.00	7.00	8.00	10.00	17.00	90.00
MilwaukeeBucks	yes	42.00	87.00	0.48	9.00	19.00	0.47	9.00	13.00	0.69	15.00	28.00	43.00	29.00	8.00	8.00	11.00	12.00	102.00
MilwaukeeBucks	yes	40.00	90.00	0.44	12.00	27.00	0.44	23.00	26.00	0.89	13.00	33.00	46.00	25.00	6.00	3.00	14.00	13.00	115.00
MilwaukeeBucks	no	33.00	89.00	0.37	9.00	25.00	0.36	19.00	21.00	0.91	19.00	29.00	48.00	18.00	6.00	4.00	10.00	16.00	94.00
MilwaukeeBucks	no	39.00	85.00	0.46	6.00	18.00	0.33	9.00	12.00	0.75	11.00	33.00	44.00	23.00	8.00	4.00	14.00	22.00	93.00
MilwaukeeBucks	no	43.00	89.00	0.48	8.00	21.00	0.38	14.00	17.00	0.82	7.00	35.00	42.00	30.00	8.00	6.00	9.00	22.00	108.00
MilwaukeeBucks	yes	40.00	87.00	0.46	7.00	19.00	0.37	28.00	38.00	0.74	11.00	33.00	44.00	22.00	6.00	8.00	9.00	24.00	115.00
MilwaukeeBucks	yes	38.00	78.00	0.49	13.00	28.00	0.46	14.00	19.00	0.74	6.00	36.00	42.00	29.00	8.00	5.00	15.00	20.00	103.00
MilwaukeeBucks	no	38.00	79.00	0.48	13.00	29.00	0.45	12.00	15.00	0.80	5.00	29.00	34.00	29.00	6.00	1.00	13.00	14.00	101.00
MilwaukeeBucks	yes	45.00	95.00	0.47	10.00	24.00	0.42	9.00	13.00	0.69	12.00	30.00	42.00	29.00	13.00	10.00	17.00	23.00	109.00
MilwaukeeBucks	yes	46.00	92.00	0.50	5.00	14.00	0.36	25.00	30.00	0.83	13.00	35.00	48.00	32.00	8.00	7.00	14.00	20.00	122.00
MilwaukeeBucks	yes	43.00	89.00	0.48	9.00	24.00	0.38	15.00	20.00	0.75	9.00	34.00	43.00	27.00	10.00	6.00	17.00	23.00	110.00
MilwaukeeBucks	yes	34.00	82.00	0.42	7.00	18.00	0.39	20.00	26.00	0.77	8.00	31.00	39.00	22.00	10.00	1.00	12.00	20.00	95.00
MilwaukeeBucks	no	41.00	89.00	0.46	4.00	12.00	0.33	16.00	20.00	0.80	17.00	41.00	58.00	28.00	8.00	2.00	17.00	14.00	102.00
MilwaukeeBucks	no	35.00	75.00	0.47	6.00	14.00	0.43	18.00	31.00	0.58	7.00	41.00	48.00	22.00	5.00	9.00	17.00	24.00	94.00
MilwaukeeBucks	no	46.00	96.00	0.48	7.00	20.00	0.35	12.00	18.00	0.67	12.00	31.00	43.00	23.00	4.00	10.00	8.00	21.00	111.00
MilwaukeeBucks	yes	37.00	88.00	0.42	4.00	18.00	0.22	16.00	21.00	0.76	16.00	25.00	41.00	21.00	9.00	10.00	13.00	21.00	94.00
MilwaukeeBucks	no	36.00	95.00	0.38	5.00	23.00	0.22	13.00	22.00	0.59	17.00	26.00	43.00	23.00	13.00	5.00	9.00	17.00	90.00

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Received: 16.07 MB (16,846,270 bytes)

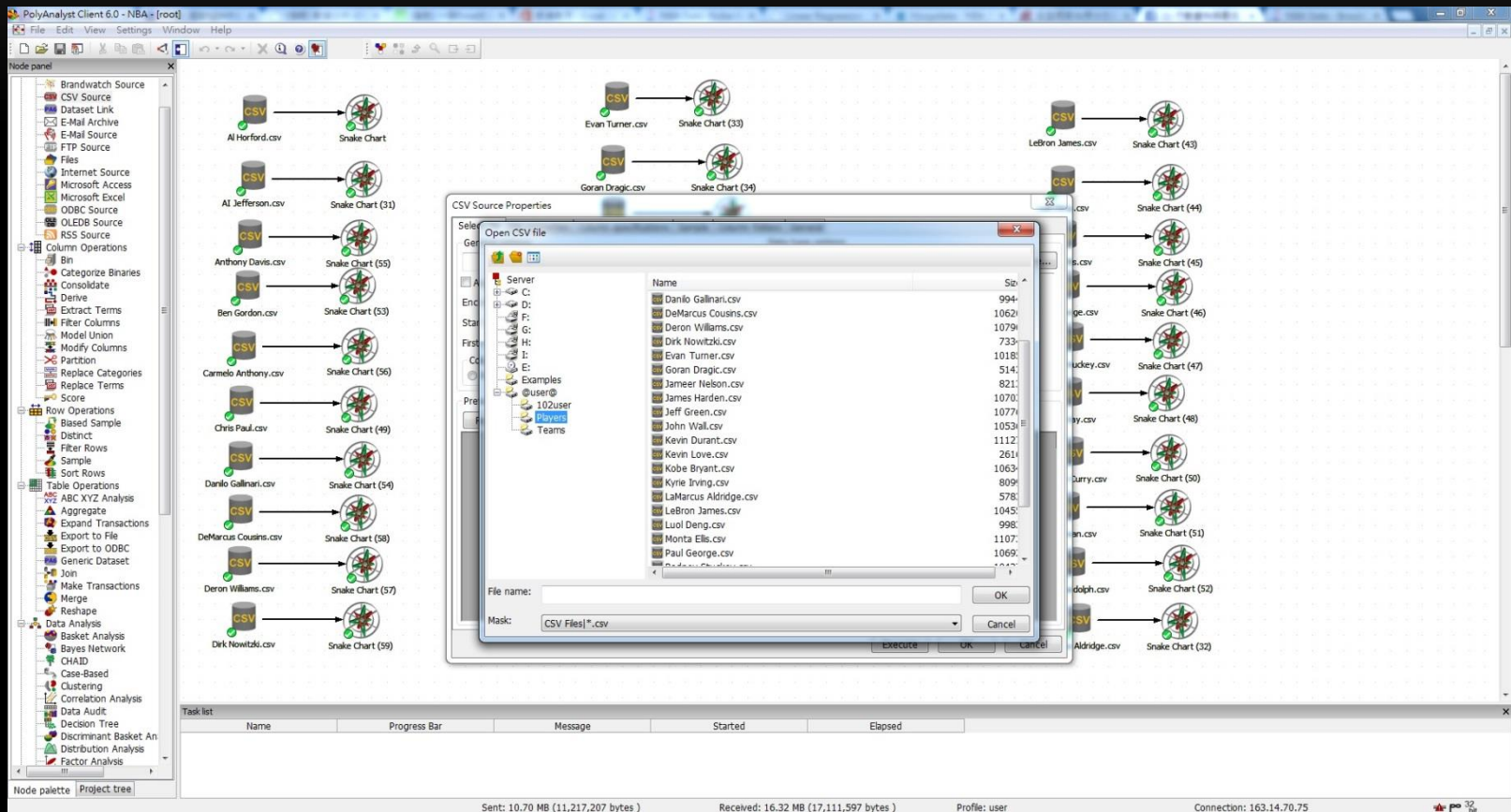
Profile: user

Connection: 163.14.70.75

將資料製成Excel→匯入Poly Analyst



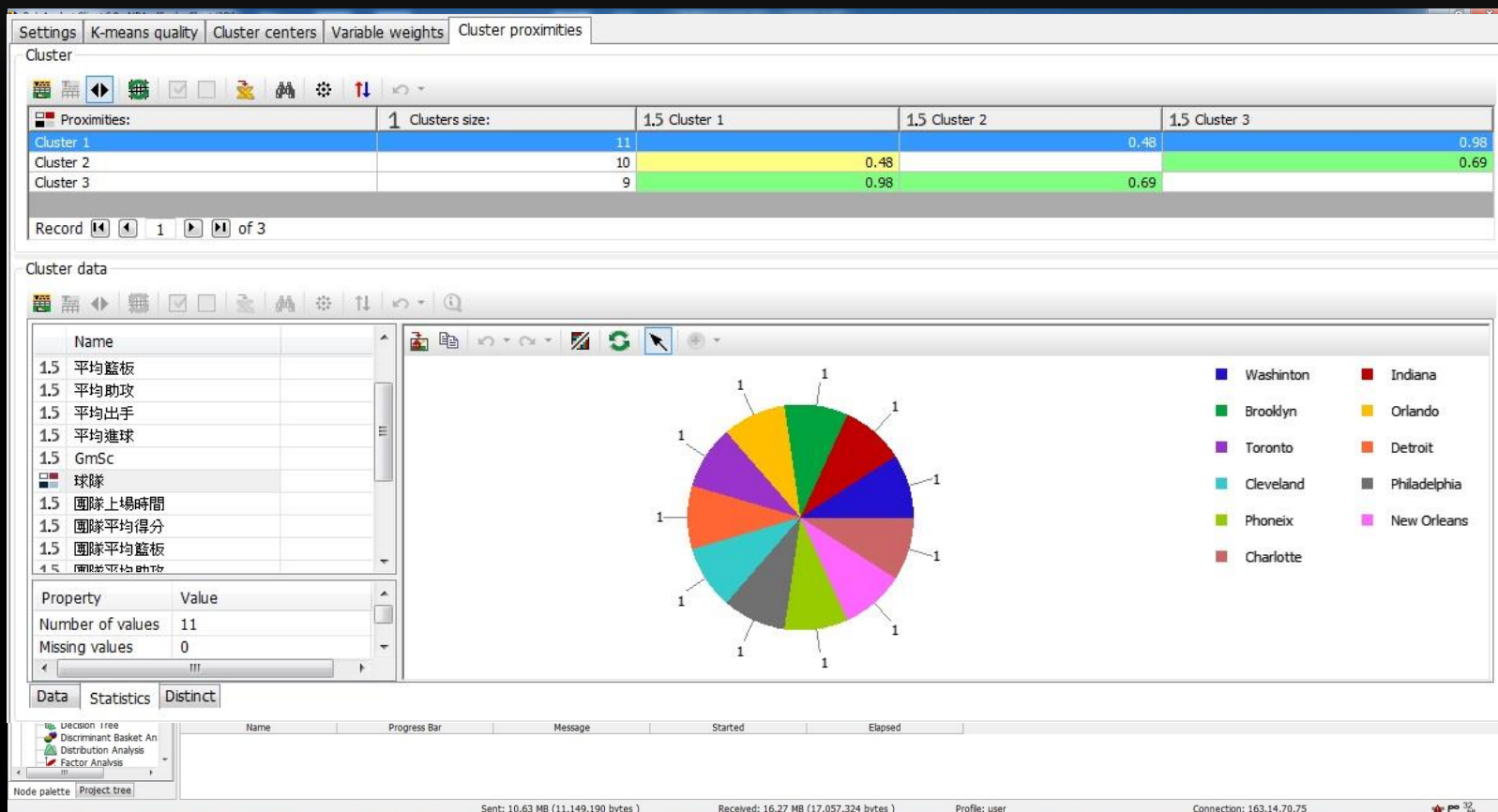
研究方法(續)



從SERVER端之資料庫取得資料



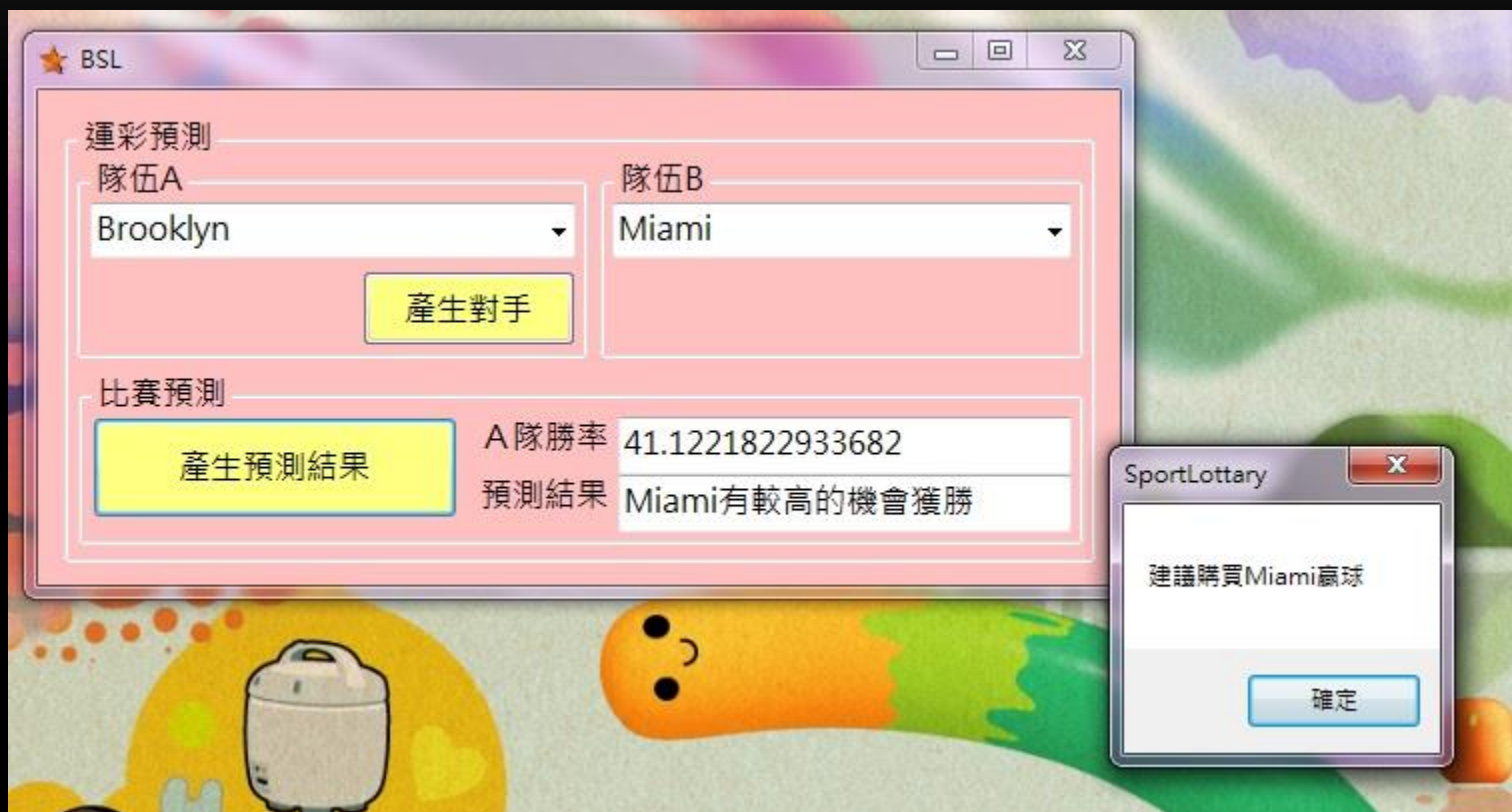
研究方法(續)



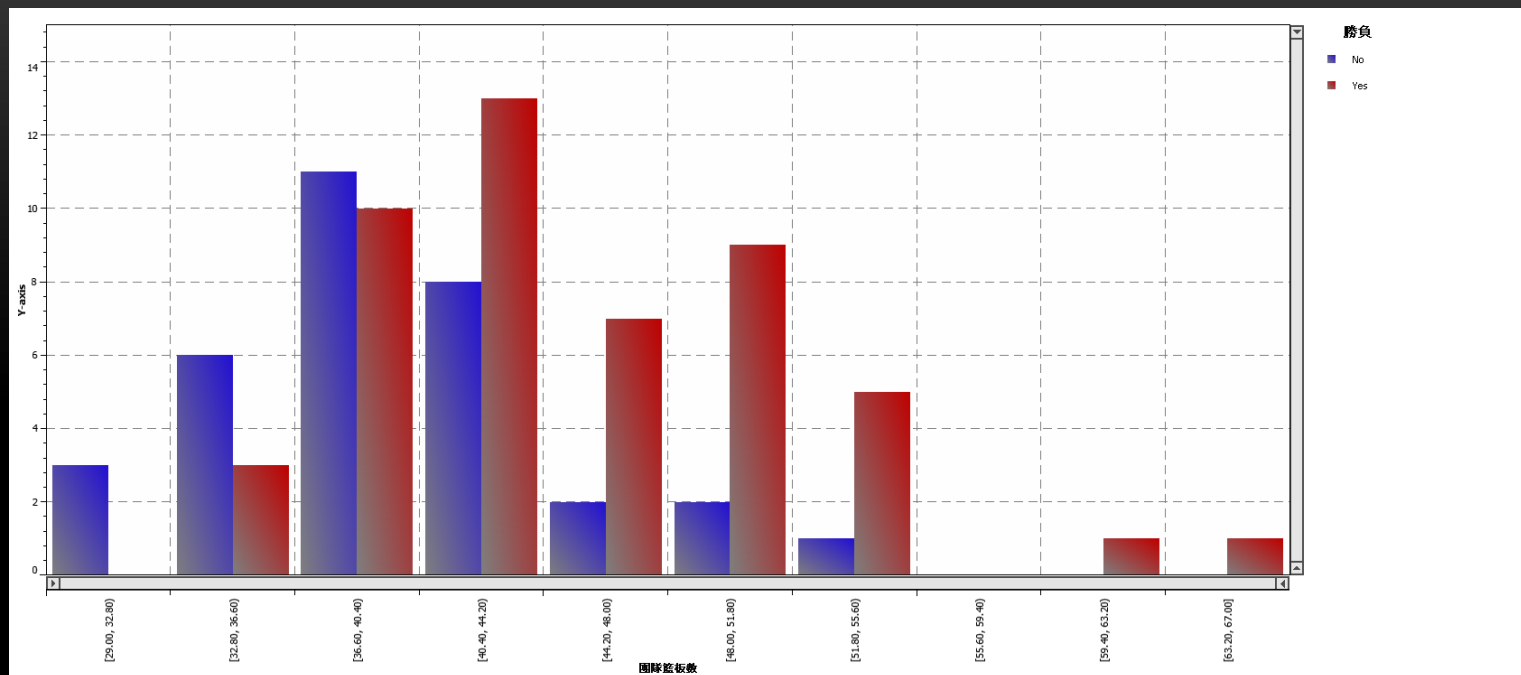
製成圖表，將球隊利用K-MEANS分群



研究方法(續)



運彩預測



- (1)打快節奏
- (2)增加禁區進攻的比重
- (3)提升外線的穩定性

研究結果-BROOKLYN NETS(續)



Eastern Conference

EASTERN	W	L	PCT	GB	HOME	ROAD	DIV	CONF	PF	PA	DIFF	STRK	L10
1 Indiana	18	3	.857	-	9-0	9-3	4-1	12-1	98.1	89.5	+8.6	Lost 1	8-2
2 Miami	16	5	.762	2	9-2	7-3	6-0	12-5	103.5	95.9	+7.7	Won 2	8-2
3 Atlanta	11	10	.524	7	7-3	4-7	2-3	8-5	99.6	99.0	+0.5	Won 2	5-5
4 Boston	10	12	.455	8 ½	5-5	5-7	1-1	8-6	95.2	95.8	-0.5	Won 3	6-4
5 Detroit	10	11	.476	8	5-6	5-5	3-2	9-5	99.3	99.3	+0.0	Lost 1	6-4
6 Washington	9	10	.474	8	6-3	3-7	2-1	7-7	99.4	100.2	-0.8	Lost 1	7-3
7 Charlotte	9	11	.450	8 ½	5-6	4-5	0-3	9-7	89.6	91.5	-1.9	Won 1	4-6
8 Chicago	8	10	.444	8 ½	6-2	2-8	3-3	7-5	94.2	94.0	+0.2	Lost 1	3-7
Toronto	7	12	.368	10	3-6	4-6	2-1	4-7	97.7	98.4	-0.7	Won 1	3-7
Cleveland	7	13	.350	10 ½	6-3	1-10	1-3	4-10	92.4	99.6	-7.3	Won 1	4-6
Philadelphia	7	14	.333	11	6-6	1-8	0-1	6-8	102.9	110.2	-7.3	Lost 2	2-8
Orlando	7	14	.333	11	6-6	1-8	0-1	6-8	102.9	110.2	-7.3	Lost 2	2-8
Brooklyn	7	14	.333	11	6-6	1-8	0-1	6-8	102.9	110.2	-7.3	Lost 2	2-8
New York	7	14	.333	11	6-6	1-8	0-1	6-8	102.9	110.2	-7.3	Lost 2	2-8
Milwaukee	4	16	.200	13 ½	2-8	2-8	1-3	4-13	90.8	99.4	-8.6	Lost 1	2-8

東區墊底

結果驗證



BSL

運彩預測

隊伍A

隊伍B

產生對手

比賽預測

產生預測結果

A隊勝率

預測結果

BSL

運彩預測

隊伍A

Chicago

隊伍B

產生對手

比賽預測

產生預測結果

A隊勝率

預測結果

BSL

運彩預測

隊伍A

Chicago

產生對手

比賽預測

產生預測結果

A隊勝率

預測結果

隊伍B

San Antonio

Memphis

Chicago

Atlanta

Utah

Minnesota

Boston

Sacramento

New Orleans

Charlotte

BSL

運彩預測

隊伍A

Chicago

產生對手

比賽預測

產生預測結果

A隊勝率

44.982509838216

預測結果

San Antonio有較高的機會獲勝

預測準確率

67.71%

成果應用



5th

成果應用(續)



謝謝觀賞

