Soccer Clubs and Regional Image

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Rüdiger Hamm

NIERS (Niederrhein Institut für Regional- und Strukturpolitik)

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Structur of Presentation

1. Introduction

2. Regional Effects of Soccer Clubs

3. Soccer Clubs and Regional Image – Empirical Analysis

    1. Aim and Methods

    2. Descriptive Analysis – Results

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Introduction

- **Empirical Studies on regional effects of soccer clubs normally focus on demand-side effects, i.e. regional multiplier analysis.**

- **But there seems to be more beyond regional multipliers (CROMPTON)**

- **Paper deals with the following effect:**
  - o **Firm surveys suggest regional image to be a separate "soft" factor of location (Hamm/Wenke).**
  - o **Sports clubs might be able to transfer their (positive) image to their hometown and thus …**
  - o **… might also be able to affect regional economic development of this city.**

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Regional Effects of Soccer Clubs

- **Demand side effects:**

  - o **Direct effect – employment, income and gross value added**

  - o **Indirect effects – Investment, demand for intermediate goods and expenses of supporters – employment, income and value added.**

  - o **Induced effects via regional income cycle – employment, income and value added**

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Regional Effects of Soccer Clubs

- **Supply side effects:**

    o **Increase of awareness level of hometown**

    o **Improvement of image.**

    o **Regional location effects**

    o **Regional „psychic income"**

    o **Nucleus of a regional communication and cooperation network**

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Aims and Methods

Aim of the following considerations:

- **Are there awareness increasing effects of a soccer club for its home town?**

- **Can a soccer club be an important image builder of its hometown?**

- **Is it possible to identify an image transfer from the club to the city?**

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Aim and Methods

- **Case study: Borussia Mönchengladbach**

- **Data for analysing image effects stems from three surveys all of them conducted in autumn 2013.**

    o **Audience of soccer matches (913).**

    o **Face-to-face passer-by-surveys (579).**

    o **Family-and-friends online-surveys (265).**

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Aim and Methods

- **Respondents have been clustered the following way**

Clustering of Respondents

Fan of Borussia   Non-Fan of Borussia

Origin:
Fan-Region

Home-Fan
n = 342
(22,9% of Sample)

Regional Non-Fan
n = 182
(17,8% of Sample)

Origin:
outside

Satellite-Fan
n = 265
(17,8% ofSample)

Outsider
n= 409
(27,4% of Sample)
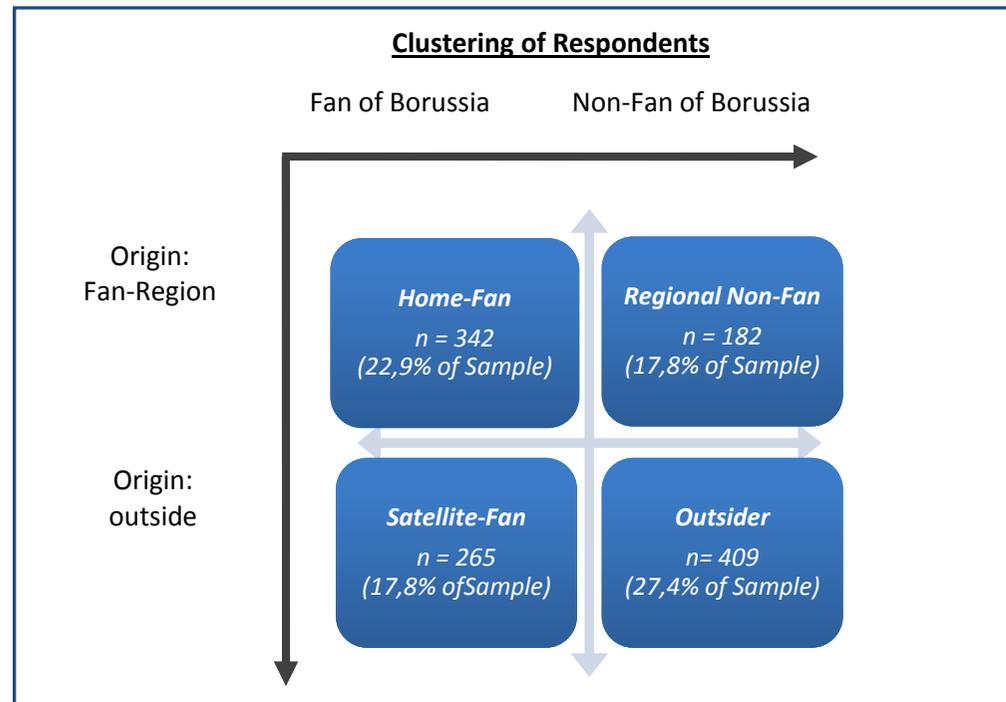
- **Descriptive statistics**

- **Factor analysis combined with linear regression**

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Descriptive Analysis

Increasing the city's national awareness?

Awareness Increasing Effects of Borussia Mönchengladbach for the City - inland

	Home-Fan	Satellite-Fan	Regional Non-Fan	Outsider
■ Very strong	64,5%	56,0%	30,5%	24,3%
■ Strong	29,0%	33,6%	45,8%	45,8%
■ Middle	4,4%	7,6%	19,2%	22,1%
■ low	1,5%	1,2%	2,3%	3,8%
■ not at all	,6%	1,6%	2,3%	4,1%
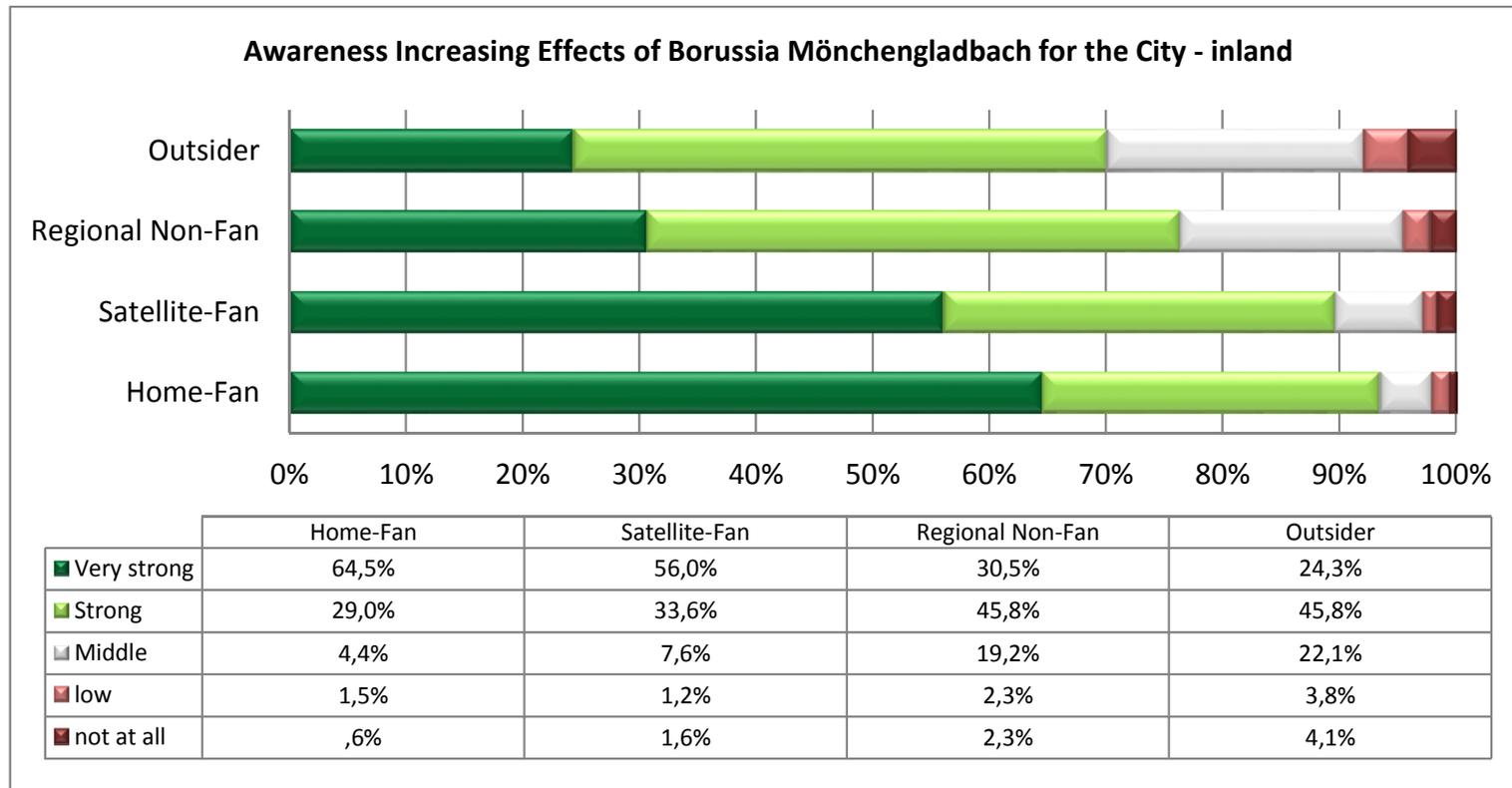
- **93.5% of the home-fans think that the club increases the national awareness of the city.**

- **Even 70,1% of the outsiders believe so.**

Rüdiger Hamm / Borussia - 27.06.14

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Descriptive Analysis

Increasing the city's international awareness?

Awareness Increasing Effects of Borussia Mönchengladbach for the City - abroad

	Home-Fan	Satellite-Fan	Regional Non-Fan	Outsider
■ Very strong	44,3%	39,9%	11,3%	9,8%
■ Strong	30,8%	34,3%	22,6%	19,1%
▨ Middle	21,0%	20,2%	36,7%	30,5%
■ low	3,0%	4,4%	18,6%	31,3%
■ not at all	,9%	1,2%	10,7%	9,3%
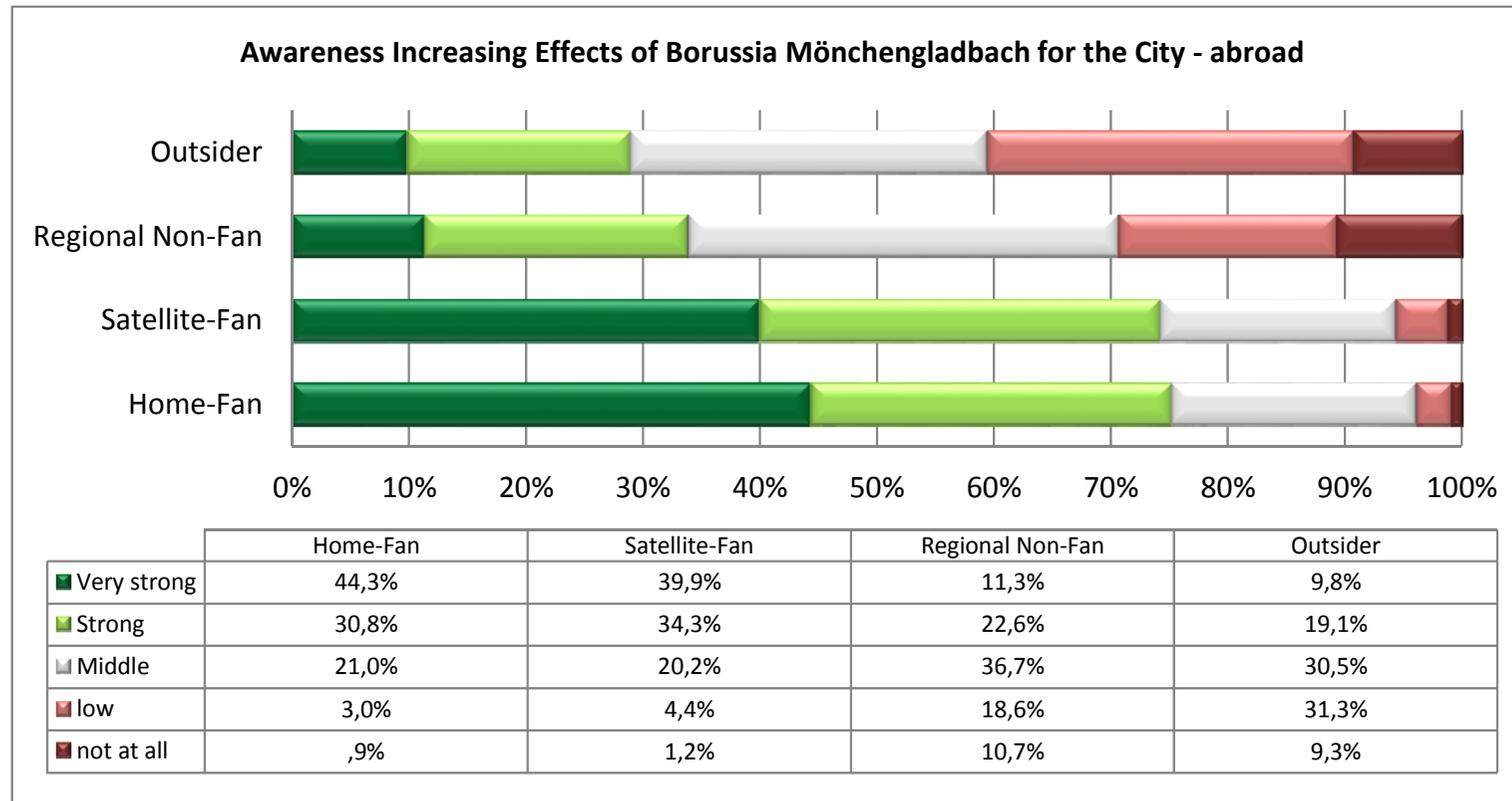
- **About 75% of the two fan groups believe that Borussia increases the city's international awareness.**

- **Nearly 30% of the outsiders believe in these effects**

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Descriptive Analysis

It can be stated that Borussia is an awareness increasing factor for the city of Mönchengladbach.

But, are there also image improving effects of Borussia for the city?

Image Improving Effects of Borussia Mönchengladbach for the City

	Home-Fan	Satellite-Fan	Regional Non-Fan	Outsider
Very strong	31,5%	32,1%	3,5%	8,4%
Strong	45,0%	48,6%	33,1%	30,0%
Middle	19,8%	16,5%	40,1%	39,5%
low	2,1%	2,1%	14,0%	15,6%
not at all	1,5%	,8%	9,3%	6,6%
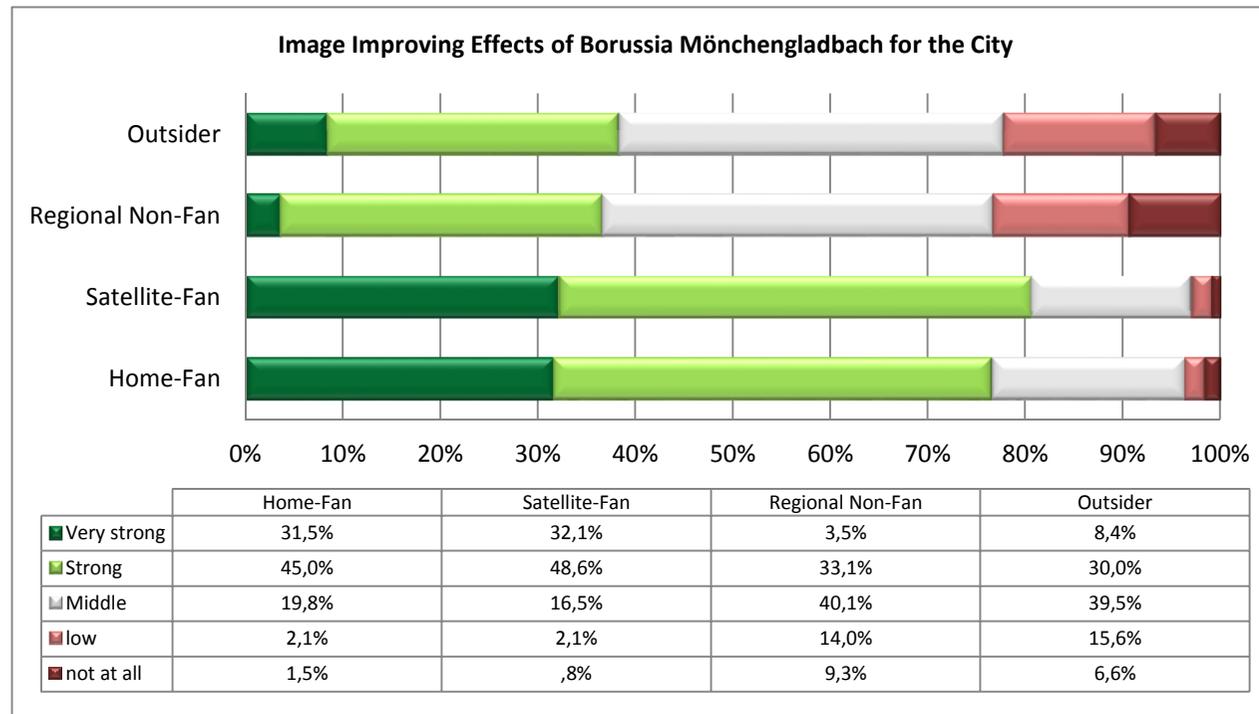
- **76,5% of the home-fans and nearly 40% of the outsiders believe in these effects.**

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Descriptive Analysis

Respondents had to rate a number of attributes for the city and the club.

Attributes of City and Club

Attribute	City	Club
Sympathetic	1,82	1,40
Modern, cosmopolitan	2,17	1,56
Inspiring	2,20	1,45
Family-freindly	1,92	1,51
Successful	2,19	1,66
Young, dynamic	2,14	1,48
Boring	2,21	2,63

■ City ■ Club
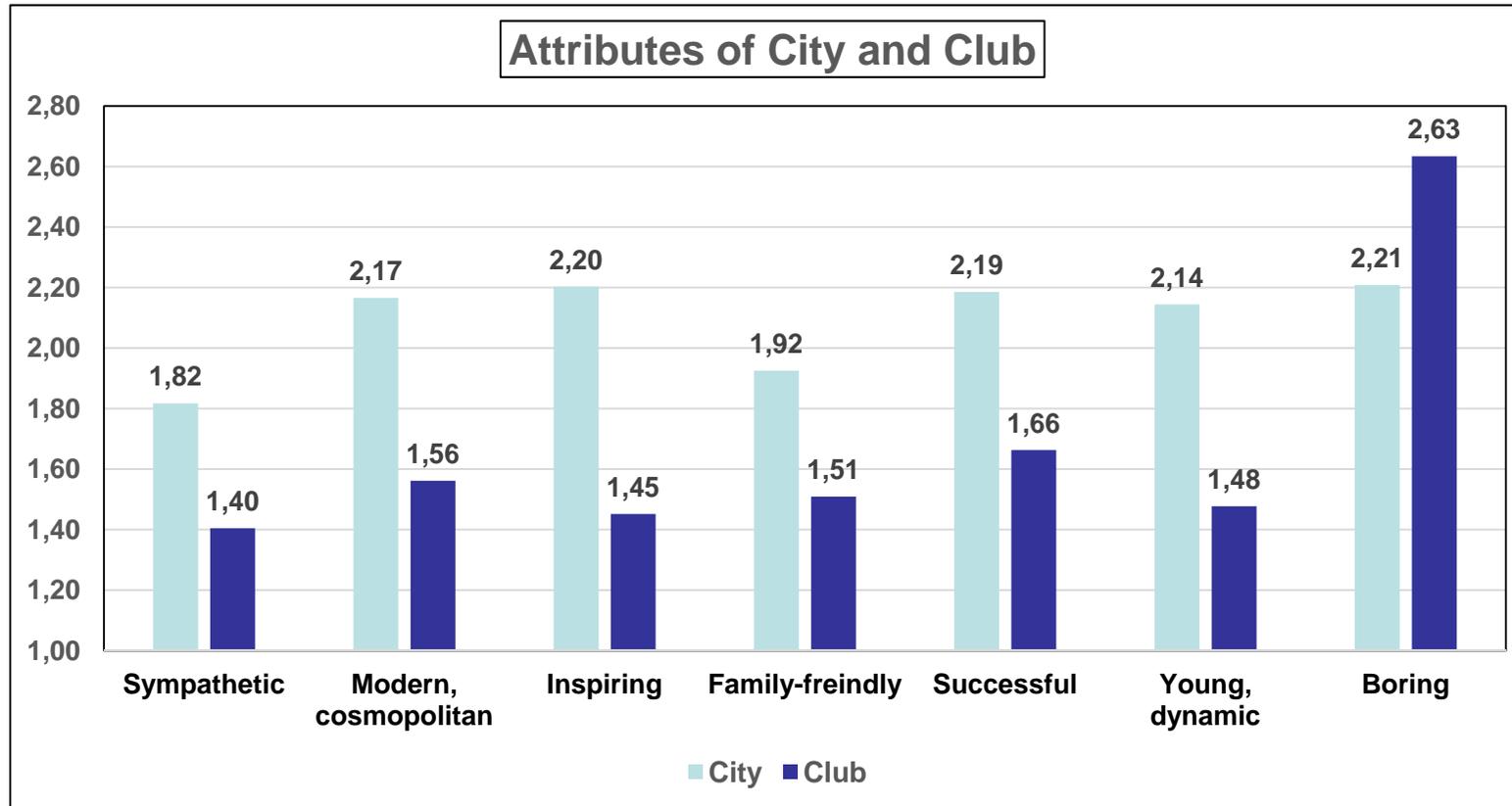
- **In all respects the club is noticeably rated more positive than the city.**
- **Results suggest that an image transfer takes place.**
- **More probable from the club to the city than vice versa.**

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Descriptive Analysis

Ratings by fan groups

- **Expectation in case of a transfer: fans of Borussia not only judge the club more positive than non-fans but also the city.**

- **Exactly this can be observed in diagram.**

- **The points tend to move to the upper right part of the coordinate system meaning that home-fans give better ratings to both – club and city.**

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Home Supporter

Scale: 1 - Applies / 2 - A bit of both / 3 - Does not apply

Regional Non-Supporter

Scale: 1 - Applies / 2 - A bit of both / 3 - Does not apply
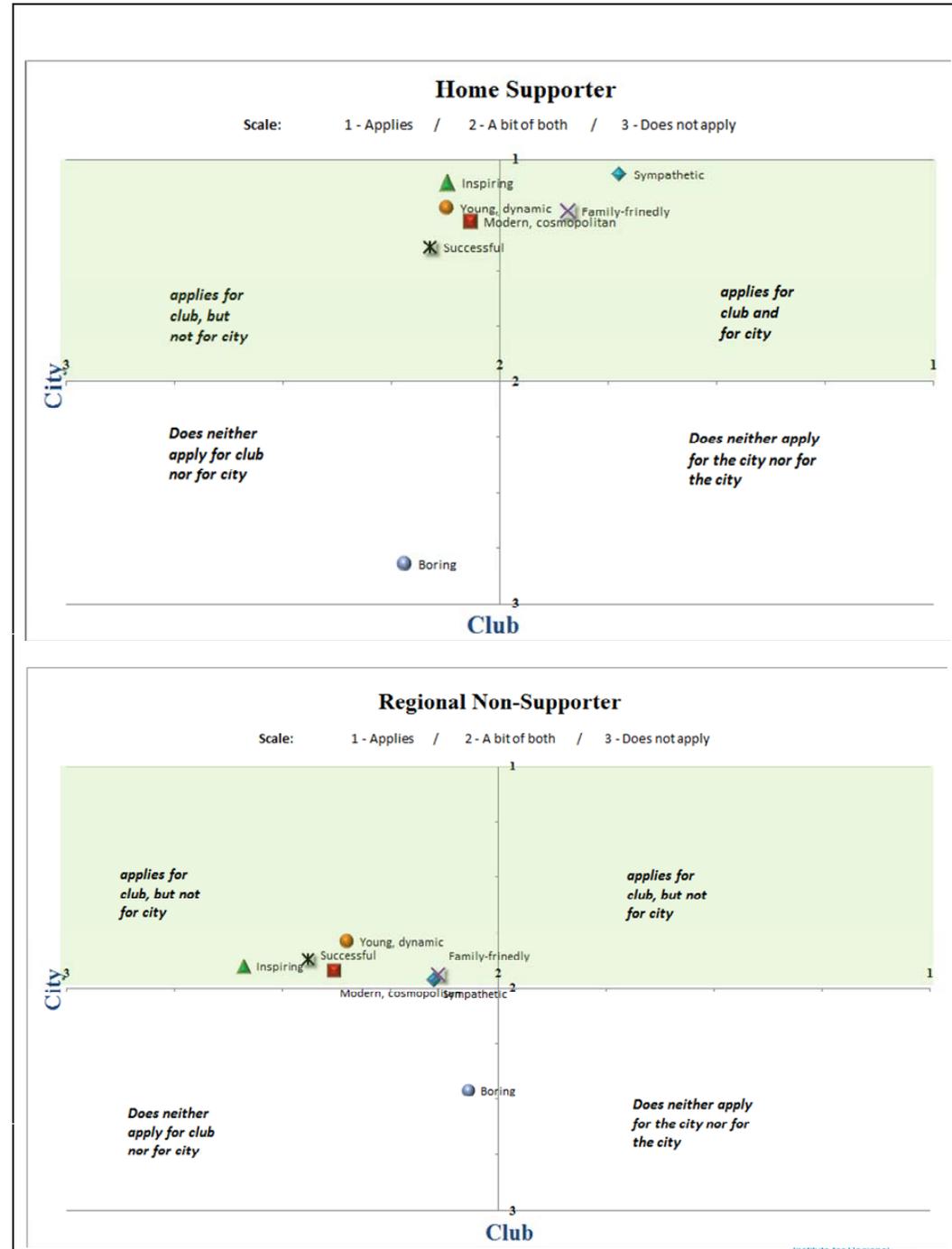
Descriptive Analysis

Ratings by fan groups

- **The same can be observed in the next diagram – comparing satellite fans and outsiders.**

- **The points tend to move to the upper right part of the coordinate system meaning that satellite-fans give better ratings to both – club and city.**

Satellite-Supporter

Scale: 1 - Applies / 2 - A bit of both / 3 - Does not apply

Outsider

Scale: 1 - Applies / 2 - A bit of both / 3 - Does not apply

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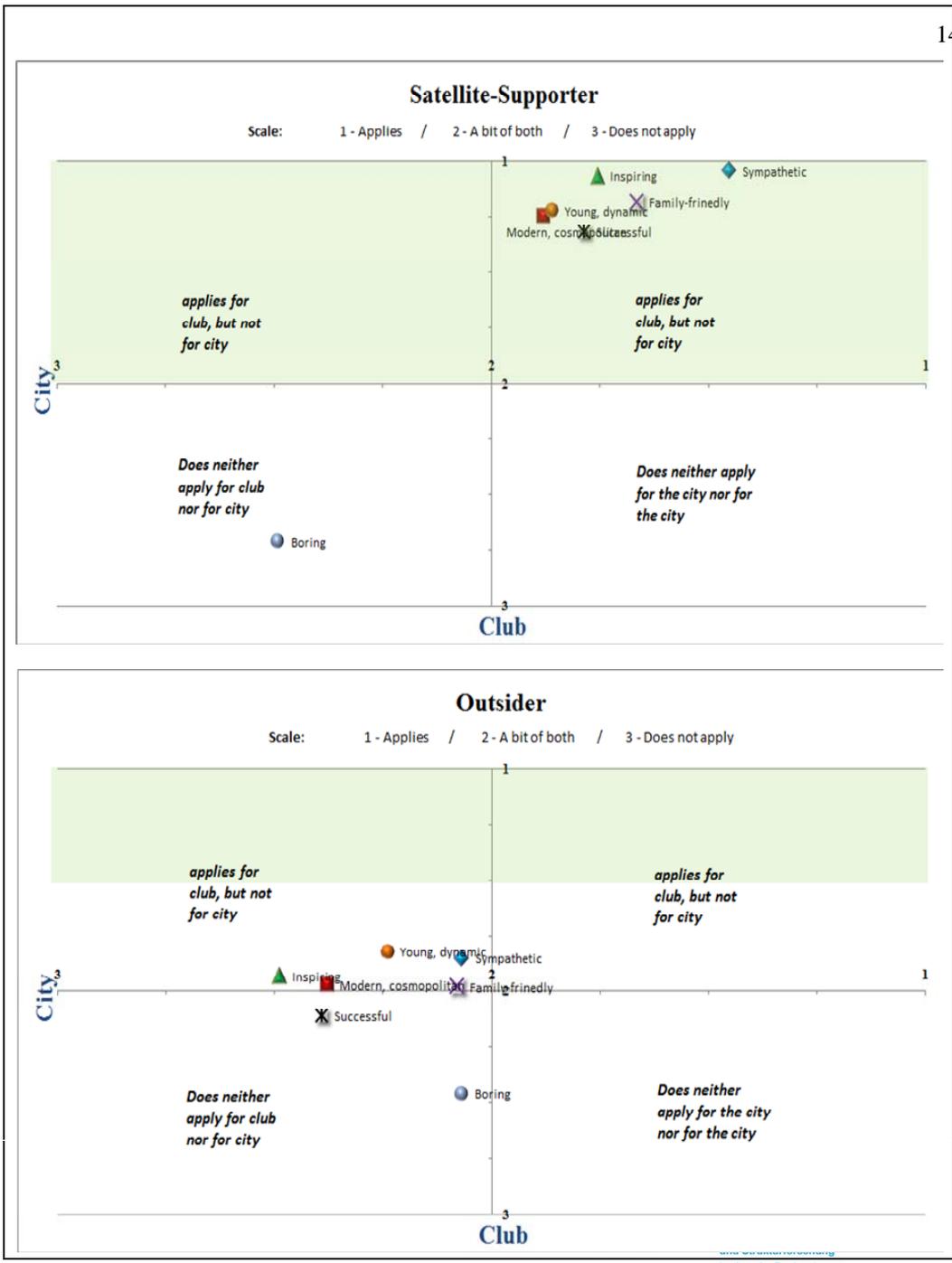
Factor Analysis

- **Results suggest that a transfer of (positive) image takes place.**

- **Combination of factor analysis and regression to check the results.**

- **In the surveys the respondents had to evaluate seven attributes for the city and the club. Factor analysis is used**
  - o **to discover whether variables are overlapping,**
  - o **to structure the relationships between these variables and**
  - o **to identify groups of variables highly correlated to each other and to separate them from those with low correlation.**

- o **Results of Factor analysis are used to calculate values for the structured factors.**

- o **Finally new variables are used for analysing the relationship between the city's and the club's image by means of a regression.**

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Factor Analysis

First step: Testing appropriateness of data (city-image and club-image):

- **Correlation: All variables used to describe the image are correlated to each other. Correlation is below I0,7I in all cases, i.e. no clear conclusion.**

- **Significance of correlation: All correlations are highly significant (1%-level).**

- **The Bartlett-Test tests whether a sample stems from a population of uncorrelated variables. Result: With a probability < 1% the variables are uncorrelated.**

- **The Kaiser-Meyer-Ohlkin-Criterion ("measure of sampling adequacy"=MSA) tests whether a factor analysis is meaningful or not. It allows an evaluation of the overall correlation matrix as well as of single variables. Literature suggests the MSA to be above 0,8; in our case the MSA-values for the correlation matrices are above 0,9, the MSA-values for the single variables lie between 0,779 (middling) and 0,940 (marvellous).**

- **Data is appropriate!**

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Factor Analysis

Second step: Deciding how many factors should be extracted

Literature suggests two different ways for solving this problem.

1. **Scree-test, i.e.**

   o **Plotting the eigenvalues in diminishing order,**

   o **Look where the difference of the eigenvalues between two factors takes a maximum (the curve must have a sharp bend),**

   o **Choose the first point left to this sharp bend – it determines the number of factors to be extracted.**

   o **Method suggests to extract one factor in both cases (left hand – city; right hand – club!)**
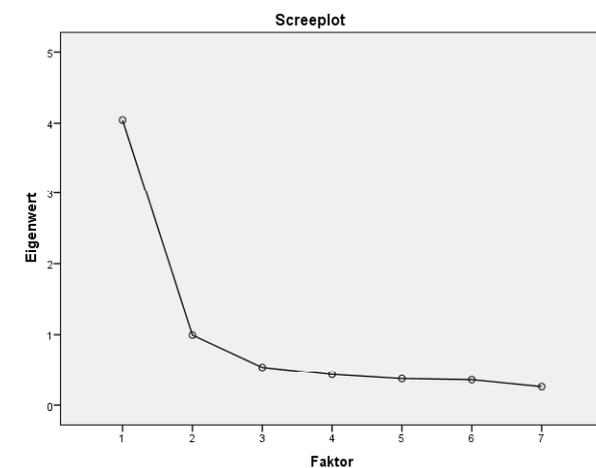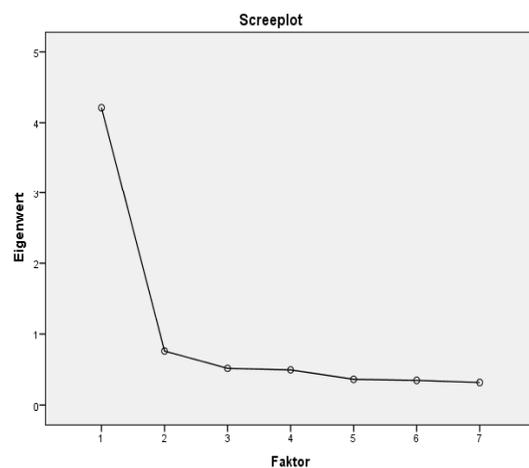
Factor Analysis

Second way:

2. **Kaiser-Criterion: Number of extracted factors should equal the number of factors with an eigenvalue above one.**

   - **The table shows that only the eigenvalue of the first factor is above one. So this method, too, would propose to extract one factor in both cases.**

   - **But in the case of Borussia the eigenvalue of the second factor (0.995) is hardly below 1.**

Decision: Extraction of one factor for the city and the club. Alternative: Two factors for the club.

Table...: Explained Total Variance						
	City			Club		
Component	Original Eigenvalues			Original Eigenvalues		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4,212	60,16	60,16	4,046	57,80	57,80
2	0,759	10,85	71,01	0,995	14,22	72,02
3	0,515	7,36	78,37	0,538	7,69	79,70
4	0,493	7,04	85,41	0,433	6,18	85,88
5	0,360	5,15	90,55	0,373	5,32	91,21
6	0,345	4,93	95,48	0,357	5,10	96,30
7	0,316	4,52	100,00	0,259	3,70	100,00
Extraktionsmethode: Hauptkomponentenanalyse.						

Factor Analysis

	City				Club			
	First Component	Coefficient	First Component	Coefficient	First Component	Coefficient	Second Component	Coefficient
Sympathetic	0,793	0,188	0,847	0,209	0,814	0,186	-0,262	-0,153
Modern, cosmopolitan	0,821	0,195	0,826	0,204	0,825	0,212	-0,077	0,030
Inspiring	0,840	0,199	0,862	0,213	0,840	0,200	-0,204	-0,093
Family-frinedly	0,749	0,178	0,786	0,194	0,789	0,222	0,074	0,174
Successful	0,818	0,194	0,764	0,189	0,806	0,211	-0,050	0,054
Young, dynamic	0,805	0,191	0,803	0,198	0,794	0,212	-0,019	0,083
Boring	-0,571	-0,136	-0,240	-0,059	-0,072	0,106	0,980	0,953
Own calculations by principal component method								

Image of the city:

- **All variables have high factor loadings.**

- **Coefficients of the components of factor 1 estimated by multiple regression.**

- **They are the weights for calculating the values of the new factor by multiplication with the original data for the seven attributes.**

- **Six positive attributes with similar positive weights.**

- **Negative attribute "boring" has a lower, but negative weight.**

- **New variable is defined as "Image of the city".**

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Factor Analysis

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Own calculations by principal component method								

Image of the club:

- **Extraction of one factor. Similar results as in the case of the city.**

- **Extraction of two factors:**

  o **Factor 1: All variables but one show high loadings. The negative attribute "boring" has a low and negative factor loading.**

  o **Factor 2: Only one variable has a very high loading while the others only have low loadings.**

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Factor Analysis

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Boring	-0,571	-0,136	-0,240	-0,059	-0,072	0,106	0,980	0,953
Own calculations by principal component method								

Image of the club:

- **Factor 1: Coefficients of the six positive attributes again have similar positive weights. The weight of the negative attribute is small.**

- **Factor 2: One variable with an overwhelming positive influence ("boring"). The weights of the others differ in sign and magnitude and are much lower.**

- **Two new variables can be calculated – "positive image factor" and "negative image factor".**

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Regression Analysis

Last step: OLS.

(1) $I_{city} = f(I_{club})$

(2) $I_{city} = f(I_{club,pos}, I_{club,neg})$

Expectations:

- **The better the club's image, the better the city's image,**

- **i.e. first derivations are expected to be positive:**

  - **$dI_{city}/dI_{club} > 0$ for (1)**

  - **i.e. $dI_{city}/dI_{pos,club} > 0$ and $dI_{city}/dI_{neg,club} > 0$ for (2)**

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Regression Analysis

Results of Regression Analysis - Dependent Variable: Image of the City				
	Coefficient	T-Value	Significance	R^2 corr.
Regression 1				
Const.	0,024	0,75	0,452	0,185
Image of the club	0,417	13,45	0,000	
Regression 2				
Const.	0,026	0,83	0,407	0,198
Positive Image of the club	0,436	14,03	0,000	
Negative Image of the club	0,043	1,35	0,177	
Own calculations				

Results of OLS:

- „Image of the city" is the better the better the „Image of the club".

- „Image of the city" is the better the better the „Positive Image of the club".

- „Image of the city" is the better the better the rating of the „negative Image of the club", but the influence of „negative Image of the club" is not significant.

- Expectations are fulfilled and last point could mean that rather positive attributes than negative ones are transferred .

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Summary

Main results:

Borussia Mönchengladbach is increasing the city's national and international awareness.

- **Descriptive analysis and the combination of factor analysis and regressions suggest a transfer of image from the club to the city.**

- **Furthermore, regression analysis gives a hint that positive image attributes are transferred more probably than negative ones.**

- **In the case of Borussia Mönchengladbach …**
  - **the soccer club influences regional image …**
  - **... and as regional image is a relevant factor of location …**
  - **… the soccer club also influences regional development behind regional multipliers.**

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Thank You for Your Attention!

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