

## Parties, Candidates, Issues: electoral competition revisited

### Introduction

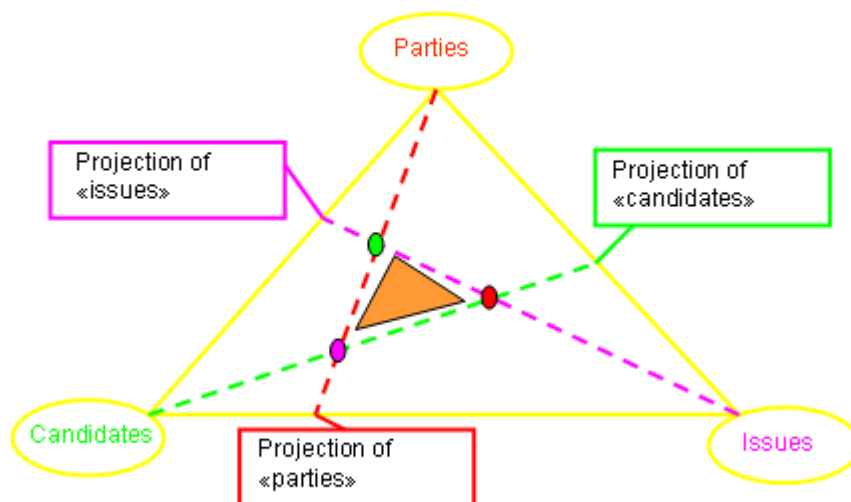
The partisan competition is part of the operation of political parties, ranging from ideology to issues of public policy choices. The political platforms of the parties and the choice of their political personnel are dimensions of electoral competition and used by political parties to enhance or maintain their position in the electoral process. This analysis examines the dynamics and characteristics of electoral competition and party strategies under the influence in shaping the opinions of citizens.

These factors however do not only have independent main effects. Interacting in pairs, while the triple interaction in many cases is important. Thus, the relationship can not be represented on a three dimensional axis scheme, but in an interacting system of axes where each axis forms with each other an angle. This approach generalizes the mapping of one-dimensional description to a line (such as the axis "Right-Left"). Correspondingly, Nolan suggests two-dimensional representation adding to the axis of the economic dimension the axis "authoritarian-liberal."

To simplify the above we represent the relationship between the three main parameters in a triangle, representing the vertices as factors. Then each vertex can be projected on the opposite edge, thus converting a three-dimensional problem in two-dimensional, projecting each factor in the interaction with the other two.

We will deal with the study of three parameters (parties, persons, issues) and their interactions.

### The triangular



## The model

Merely addressing the problem referred to attempt to estimate the effect of each factor, usually through opinion surveys. But the presence of interaction requires a description of a complete model.

Describing a complete mathematical model of three main factors, where the dependent variable is the position of k citizen, we would have:

$$X_{ijk} = b_{0k} + b_{1ik} * P_{ik} + b_{2jk} * C_{jk} + b_{3lk} * I_{lk} + b_{4ijk} * PC_{ijk} + b_{5ilk} * PI_{ilk} + b_{6jlk} * CI_{jlk} + b_{7ijk} * PCI_{ijk} + e_k$$

Where P is the main effect of party, C the main effect of the candidates and I the main effect of issues. Consequently we can define double and triple interactions. The full model is difficult to assess.

We will describe each of these seven factors (main effects and interactions) proposing an method of analysis for each one of them.

### Context: broader social changes

Many scholars agree that we are in a transition phase where voting "individualized" shifting competition from traditional polarizations ("Right-Left", "Authoritarian-Liberalism", "pro Europe- against Eyrope") referred to new issues and the selection of persons developed and diffused throughout society. Key factors for this are the following:

- (New structure) Changes in economic structure of production with the rise of services has traditional classes to "catch up" and thus to reduce the polarization between the
- (Social mobility) Smaller part of the electorate voting based on initial social references, so the 'class vote' diminishes.
- (Personal Mobility) Part of society "individualized"
- (The society of media) The media replace traditional information networks (family, neighborhood, church, party)
- (Urbanization) Urbanization deconstructs the traditional homogeneous and collective communities
- (Education level) The educational level enables the citizen of critical analysis.
- (aged party system) The ambiguity in the political programs and projects within and promises are changes that make the party seem outdated.

### From party model to the model of people and issues

What is recorded is the "distance" of citizens from parties and "weakening" of party loyalty. The electorate is more interested in "issues". The "issues" expressed either with actual interest (personal finance, interest) or as institutional problems (corruption, re-establishment of political system).

The diversity of issues leads a significant proportion of citizens to characterize the political preferences of the so-called "crossing issues." Specifically, people tend to be

multiple integrated in formal or informal collective issues, whose positions on individual 'issues' are often contradictory.

The passage from the "party" to "issues" refers to the issue of mediation for individuals. Like most political systems of the Greek political system is primarily mediating. The degree of personal involvement in resolving issues of concern are relatively low.

Because the influence of individuals is increasingly important, are considered important and the procedures through which they are selected. Cause the relaxation of "party loyalty" citizens are more likely to vote a candidate based on opinions and personal characteristics than vote based on party loyalty.

### **Candidates. The exchange model**

The description of political exchange is a characteristic of scientific models that relate the party competition. Downs's model consists of voters and party-oriented electoral exchange, in which political promises exchanged for votes. However, parties to the model of Downs appear as black boxes, making it particularly coherent groups claiming power, rather than collectives organized by internal differences.

However, opening the black box revealed that the organization of parties and hence the procedures for selecting candidates and his manifesto, is an important factor in the cost of processing concerning party and voter. But the parties have incomplete information on the trends of voters and the voters have only a general idea of the party programs.

As the definition of the Downs for the party is insufficient, we need an alternative.

Alan Ware suggests the following.

The exchange models for the organization of parties oriented in matching between politicians and activists, through which they agree to act in helping to elect politicians in exchange for concessions on the level of political or other benefits.

In a series of surveys the analysis using factor analysis gives an estimate for the three main factors (the controllable part of the model) in a 2:1:1 relationship (Parties, People, Issues). This relationship describes the effect of the main parameters in which interactions are included.

### **Parties**

We usually describe as a main effect of the parties the measurement resulting from the direct question of party identification or party loyalty. Indirectly, an upper bound can be estimated using the percentage of citizens who vote in successive elections for the same party. In succession, until 2010, surveys find that this percentage is about 75% of citizens say they have taken their decision "long before the elections." The lack of electoral behavior research cannot give us a better estimate, although studying results

in successive elections, we reach the same conclusion. Thus the influence of parties can be estimated by 50% (lower bound from the estimate given above) by 75% (upper bound to this our estimate).

## **People**

The role of "person" is central to competition as the competition progresses through persons on issues. Although the Greek party system based on clientelism and patronage networks built from candidates of political parties (usually the party of power) the actual impact of individuals can occur indirectly if we calculate the main effect of the interaction of parties and party-people . Again an upper bound of the estimate is 25% as mentioned above, while a lower bound can be estimated at 16% using a factor analysis to question the selection criteria face.

In a model using 15 variables indicators attempts to break the influence in five independent factors (party identification, issues, involvement of the person in the competition, relations with society, relations with institutions). This effort leads to form groups of candidates (for multi-seat regions) that their effect is compared with the results of elections. The Greek system of open party lists encouraging internal rivalries among candidates of same party.

## **Issues**

Similar to above, the so-called "thematic vote" as estimated upper bound may approach 25%, can be assessed mainly indirectly. Usually the interaction 'people-issues' (ie the thematic agenda of candidates) and the interaction 'party-themes' (ie the thematic agenda of political parties) are more important than the main effect of issues.

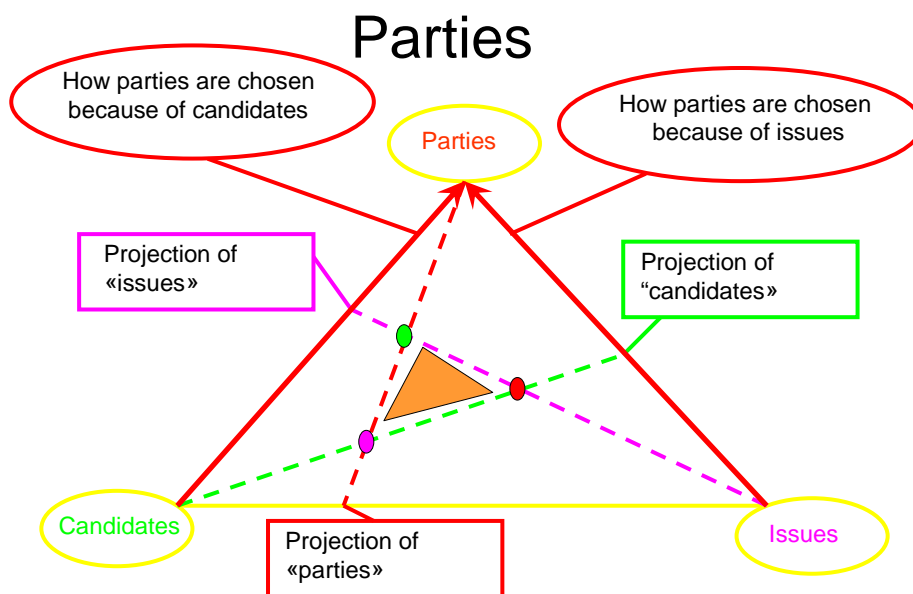
Counting directly thematic identification ("how much important in your decision is party program") is not possible to distinguish the main effect. So, grow online, mainly recording tools VAA (Voting Advice Applications) who intend to explore the degree of citizen identification with the candidate (and / or party) in a series of questions noting the proximity of citizens with each candidate (and / or party) as compared with the stated choice (before or after using the tool) to a candidate (and / or party) to estimate the so-called "thematic vote" mainly as an option to change after finding a citizen of the proximity. These tools can not-yet- believed that refer to a representative sample of the population because they are used by citizens who have Internet access and are usually highly educated and of younger age. The implementation of the recent elections in Greece by about 30,000 people showed that the thematic identification may approach 30% (in local elections).

Before proceeding to describe and study of interactions we have to clarify that the interaction of two variables indicate the joint influence of two variables. In the case of interaction party-

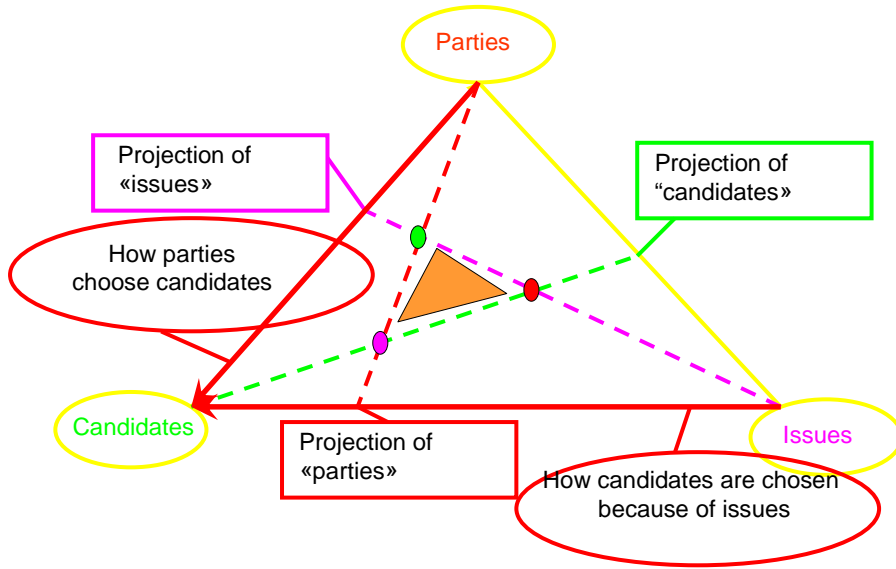
persons to jointly influence states that their presence must involve both. Candidate A party B is selected from the citizens just for this reason, and if it was not a candidate of party B (but someone else) will not be chosen, while party B will not be selected (as if he had another candidate). This leads to the need to describe two directional effects to be considered separately. The first (Persons to Parties) refers to the reasons for the choice of the parties (by voters) because of the people (candidates). The second (Parties to People) refers primarily to the process of selecting candidates from parties and thereby to influence the selection process in the selection of parties from the public. The study of these two effects leads to the interaction Parties-persons.

Schematically the six interactions are described below (Figures 2-4). Persons (candidates) and issues (the thematic agenda) of parties lead to the selection of parties by the public. This can be measured by calculating coefficients proximity to each party / candidate variables based on issues.

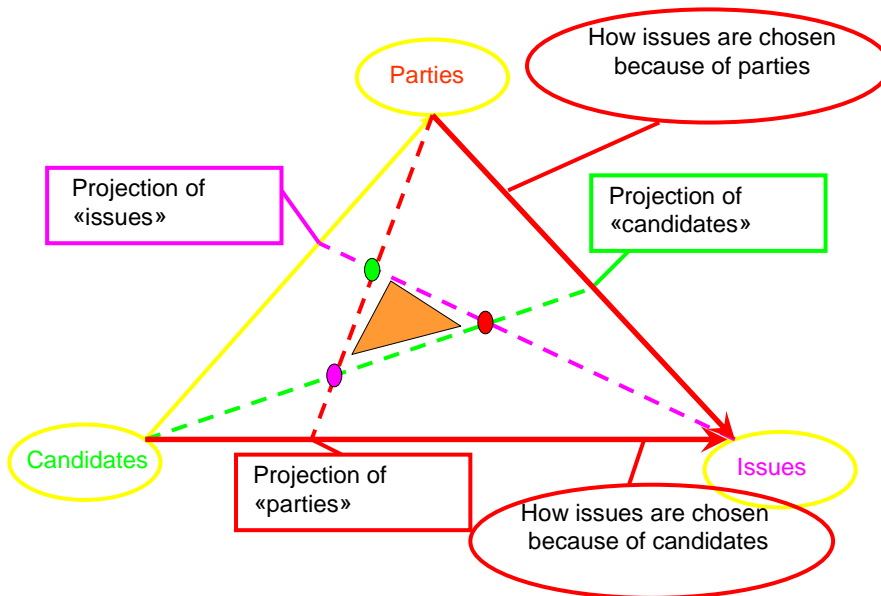
Similarly persons selected by the parties through internal processes while their agenda affects the public. Issues are chosen by the electorate because of the thematic agenda of parties and persons. The evaluation of the impact is resulting by calculation of directional coefficients. This is possible by calculating coefficients to estimate some effects and therefore the overall interaction.



# Candidates



# Issues



## **Persons to Parties**

Here our attention is directed to the selection of persons from the citizens. Parties following the criteria chosen persons that are more eligible to be elected. Parties acting as rational mechanisms are driven in their choices taking into account internal balances to meet their members and personnel opinions.

To assess the specific involvement of individuals in the selection of parties from the public in an election where different electoral units are present for candidates of same party we are using the following model:

Let  $X$  the percentage of the party in previous elections (parliamentary). If  $Y$  is the percentage in these elections, the difference  $X-Y$  can be used as a dependent variable in a model analysis of variance of two factors. Deviations from the average is due to the influence of other factors.

## **Parties to persons**

The "party" as an institution referred to three key circles of influence and interaction. The first is the leadership team which selects candidates to maintain balance representativeness with demographic characteristics and internal party equilibrium. The second, party members, ensures the acceptance of candidates from those who have to support them and act as propagandists. A party may use primaries to ensure the acceptance of candidates and the commitment to support them. The third, the general election audience, can not but express its opinion through a survey in result of which is the driving the party leaders in the selection of the candidates. The selection of the first cycle based on the "party loyalty" of the voter to follow the choice of his party. The selection of the third cycle, bypassing the second based on the view that the base of the party is in mismatch with his followers and so is considered that they proposed those who the society wants (ie the voters). The selection of the second cycle based on the commitment of members and friends through their participation in the selection.

The interaction of parties-issues is defined as the common presence of two factors. The voter  $X$  chooses "party A" dealing with "issue B" and would not have chosen if not dealt with it, neither would choose another party if not dealt with "B". Must therefore be satisfied both conditions. The complexity of the thematic agenda makes evaluation difficult because the position of issue "B" is composed in fact by very many issues. We must emphasize that generally speaking the voter  $X$  has not single-issue direction, because he may agree with views of the political party A and disagrees with others. He will make a decision usually without a rational process (ie estimating a cost function for the choice) but using some fuzzy criteria.

## **Issues to Parties**

Here we refer to the selection of parties from the voter because of the thematic agenda. The voter  $X$  chooses party A cause of the issues. So the party A has to choose

the issues that will meet the agreement of the majority of the electorate. The measurement of interaction based on calculating a factor of distance (or relationship), as mentioned above, by VAA tools. In general indication of the interaction can be approximated by the commitment of the voter to the "party program" and the degree of significance of the program as a criterion for selection. Parties arrive at recommendations and commitments and the choice of a party that commitments can not be straight due to the time difference: X chooses A because of the program waiting for the return (ie the implementation of the program) after selection and not simultaneously. Thus, despite the attention to the "party program" is a widespread impression that the parties fail to fulfill their programmatic commitments or policies will not be realized.

### **Parties to issues**

Highlighting the agenda of the parties may still, like the choice of persons, rely on three circles of influence. The hypothetical voter X selects the issues dealt with by the party (ie accepts the thematic agenda of the party) but the party chooses the issues either through the third cycle (general public), or through the second or through the first (the leaders). As in case of individuals the choice of programmatic agenda of the third cycle removes the essence of the operation of "party", the choice from the second based on the participation of the party base, while the selection from the first enables the leadership to include the original needs of the electorate, assumed that the intermediary mechanism (i.e. the party's mechanism) does not take into account, -into a proposal.

### **Issues to Persons**

Here we refer to the selection of persons from the voter according to the thematic agenda. The voter X chooses person A according to issues. So Person A has to choose the topics that will meet the agreement of the majority of the electorate. The measurement of interaction based on calculating a factor of distance (or relationship) as mentioned above by VAA tools. In general the interaction can be approximated by the commitment of voters to "programmatic profile" of the candidate, which necessarily included in the programmatic profile of the party. But candidates are supposed to be identical with the parties and so that lead to the fact that the choice of a person because of commitments cannot be straightforward : the X chooses A because of the program waiting for the return (ie policies) after selection and not simultaneously. Thus, despite the attention to the "party program" is a widespread impression that the parties (and thus candidates) defaulting on their programmatic commitments or policies will not be realized or even biased in favor of a close network of patronage.

### **Persons to Issues**

Persons choosing topics that are "compatible" with their personal identity as the mismatch with it causes the opposite effect. Similarly, they choose within the party's programmatic framework the specific issues that usually differentiate them from the other candidates of that party. As mentioned above in the analysis of individuals

concerning their thematic engagement and the election result can give a measure of interaction.

### **Parties-Persons-Issues**

The triple interaction defined by the common occurrence of three factors can be represented as follows: voter X chooses A party that has the candidate B and involved (party and party) with issue C. There would choose none of the A B, C in the absence of any the other two.

### **Conclusions**

From what was stated above the analysis of three factors can be derived indirectly by calculating the relationship between citizens and candidates (parties) that are based on a set of statements.

To calculate such coefficients a number of measures have been proposed. Measures as Euclidean distance or the square of the usual correlation coefficient, the coefficient of City block, and a weighting coefficient calculated by the formula (number of matching \* (N / [number of measured])).

There is definitely of great value the selection of relevant question-variables and the scale of measurement. These are usually selected to reflect the position of the parties (candidates) in three axes, specifically: the axis of "left-right" in relation to economic conditions, the intersection of "conservative-liberal" in terms of social issues and the intersection of "pro-European or against". Using questions concerning economic policy, social policy, foreign policy (or political relations within the EU if it is for EU countries), environmental issues, current affairs, institutions and transparency.

### **Six algorithms in search of an application**

Considering X is a respondent and Y a party. Both answer the set of 30 variables. Variables are defined on an ordinal scale. Several methods of studying the relationship of ordinal by ordinal are introduced<sup>1</sup>. Since the categories of variables are ordered, you can make use of measures that quantify the strength and determine the sign (positive or negative) of the association<sup>2</sup>.

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<sup>1</sup> Among others Kendall's tau-b and tau-, Somers' d, Gamma etc

<sup>2</sup> The use of association measures for scale variables (like Euclidean distance or Euclidean squared distance) is considerable for the case we are studying. Although in similar occasions there is an extensive use of such measures it is due mainly because of the hypothesis that the underlying distribution in the population for each variable is a continuous distribution. That is supposing  $x_i$  the response of respondent X to variable i,  $X_i$  follows some continuous distribution in the population where "strongly agree", "agree", "neither...nor", "disagree", "strongly disagree" coded as 1, 2, 3, 4, 5 stand for the midpoints of the corresponding interval.

Given that each of the 30 variables follows a categorical distribution with n=5 and

$$\sum_{i=1}^n p_i = 1$$

Then the joint distribution for the (X, Y) responses on the 30 variables is a multinomial distribution on the 25 possible pairs (X=i, Y=j) i,j=1,2,...,5. I.e. there are 25 cells where we put 30 objects counting the number of objects in each cell.

To compute a measure of association we further distinguish between directional and similarity-dissimilarity measures.

Given matrix Z as the cross tabulated 5X5 matrix of pairs (X, Y)

	SA	A	N	D	SD
SA	n <sub>11</sub>	n <sub>12</sub>	n <sub>13</sub>	n <sub>14</sub>	n <sub>15</sub>
A	n <sub>21</sub>	n <sub>22</sub>	n <sub>23</sub>	n <sub>24</sub>	n <sub>25</sub>
N	n <sub>31</sub>	n <sub>32</sub>	n <sub>33</sub>	n <sub>34</sub>	n <sub>35</sub>
D	n <sub>41</sub>	n <sub>42</sub>	n <sub>43</sub>	n <sub>44</sub>	n <sub>45</sub>
SD	n <sub>51</sub>	n <sub>52</sub>	n <sub>53</sub>	n <sub>54</sub>	n <sub>55</sub>

And ZV is the corresponding 25X1 vector with elements (n<sub>11</sub>,...,n<sub>15</sub>,n<sub>21</sub>,...,n<sub>25</sub>,n<sub>31</sub>,...,n<sub>35</sub>,n<sub>41</sub>,...,n<sub>45</sub>,n<sub>51</sub>,...,n<sub>55</sub>)

We can formulate a directional measure as follows: If matrix D is the following matrix

	SA	A	N	D	SD
SA	1	1	0	-1	-1
A	1	1	1	-1	-1
N	0	1	1	1	0
D	-1	-1	1	1	1
SD	-1	-1	0	1	1

Taking the corresponding 25X1 vector DV the directional coefficient is given by

$$DC1 = ZV \times DV^T$$

A simplified directional coefficient can be computed if we suppose that there are only three possible answers (“agree”, “neither...nor”, “disagree”) and following previous notation define matrix Z as:

	A	N	D
A	n <sub>11</sub>	n <sub>12</sub>	n <sub>13</sub>
N	n <sub>21</sub>	n <sub>22</sub>	n <sub>23</sub>
D	n <sub>31</sub>	n <sub>32</sub>	n <sub>33</sub>

Then DC2= [ (n<sub>11</sub> + n<sub>33</sub>)-( n<sub>13</sub> + n<sub>31</sub> ) ] / [(n<sub>11</sub> + n<sub>33</sub>)+( n<sub>13</sub> + n<sub>31</sub> )]. If DC2 is corrected for “ties” another coefficient is given by:

$DC3 = [ (n_{11} + n_{33}) - (n_{13} + n_{31}) ] + \frac{1}{2} * [ (n_{12} + n_{21}) - (n_{23} + n_{32}) ] / K$ , where K is the total number of questions (30).

To compute a similarity-dissimilarity coefficient we use as matrix D the following matrix:

	SA	A	N	D	SD
SA	1	1	0	-1	-1
A	1	1	3/8	-1/2	-1
N	0	3/8	0	3/8	0
D	-1	-1/2	3/8	1	1
SD	-1	-1	0	1	1

We suppose that the pairs (SA, SA), (SA, A), (A, SA), (A, A), (SD, SD), (SD, D), (D, SD), (D, D) are totally similar, the pairs (SD, SA), (SD, A), (D, SA), (SA, SD), (SA, D), (A, SD) are totally dissimilar, pairs (A,D), (D,A) are half-dissimilar, pairs (A,N), (N,A), (N,D), (D,N) are 3/8 similar and pairs (SA,N), (N,SA), (N,N), (SD,N), (N,SD) are neither similar nor dissimilar.

Then SDC (similarity-dissimilarity coefficient) is given as

$$SDC = ZV X DV^T .$$

The distribution of SDC can easily computed from the distribution of the (X,Y) pairs. Nevertheless, running a simulation for 100,000 cases for SDC we get the sample distribution of the coefficient with mean 0.10 and standard deviation of 0.14. Estimating the distribution of the coefficient a confidence interval for the association of a given (X,Y) can easily computed.

An alternative similarity coefficient is computed as follows:

To calculate a coefficient for relationship based on a scale of five values (strong agreement, agreement, or agreement or disagreement, disagreement, strong disagreement) we define “the distance” between two subjects (usually the voter X and party Y) as follows:

Suppose there are two people or parties (X and Y namely). Supposing “agree” or “disagree” on an issue has a directional (dichotomous) reasoning we should consider that:

1. SD is similar to SD and D.
2. SA is similar to SA and A.
3. D is similar to D.
4. A is similar to A.
5. A is somewhat similar and dissimilar to D.

That is:  $P(\text{true opinion}=A/\text{opinion}=D) = P(\text{TO}=A/\text{O}=D) = a$ . Then we could suppose that in half cases when (X=A, Y=D) and (X=D, Y=A) they are dissimilar.

6. What is the meaning of N?

Let N means no answer or neither A nor D. Then  $P(\text{true opinion}=A/\text{opinion}=N)=P(\text{true opinion}=D/\text{opinion}=N)=a=3/8$  unless otherwise stated. In the later case (especially for a party) we may estimate a prior probability according to party's general image. That leads to a Bayesian approach. So (D,N), (N,D), (N,A), (A,N) are 3/8 similar.

7. Supposing further  $P(\text{TO}=\text{SD}/\text{O}=\text{N})=P(\text{TO}=\text{SA}/\text{O}=\text{N})=b=1/8$ . This is due since  $\sum[P(\text{TO}=x/\text{O}=\text{N})]$  must equals to 1. Then (SD,N), (N, SD), (SA, N), (N,SA) are 1/8 similar and 1/8 dissimilar.

8. (N,N):  $P(\text{TO}=A \text{ or } \text{SA}/\text{O}=\text{N})=P(\text{TO}=D \text{ or } \text{SD}/\text{O}=\text{N})=1/2$ . So (N,N) is half similar.

$$\begin{aligned} & \#(\text{SD,SD})+\#(\text{SD,D})+1/8\#(\text{SD,N})+\#(\text{D,SD})+\#(\text{D,D})+3/8\#(\text{D,N}) \\ & +1/8\#(\text{N,SD})+3/8\#(\text{N,D})+1/2\#(\text{N,N})+3/8\#(\text{N,A})+1/8\#(\text{N,SA}) \\ & +3/8\#(\text{A,N})+\#(\text{A,A})+\#(\text{A,SA})+1/8\#(\text{SA,N})+\#(\text{SA,A})+\#(\text{SA,SA}) \end{aligned}$$

	SA	A	N	D	SD
SA	Similar	Similar	7	Dissimilar	Dissimilar
A	Similar	Similar	6	5	Dissimilar
N	7	6	8	6	7
D	Dissimilar	5	6	Similar	Similar
SD	Dissimilar	Dissimilar	7	Similar	Similar

Similarly partial coefficients can be calculated (ie: the relationship candidate-citizen, candidate-party, party-citizen, citizen-candidate, candidate-party-party-citizen). Because the calculations are based on issues, the calculation of the effect of issues is indirect. Thus the calculation of coefficients and posteriori classification analysis (discriminant analysis) or a cluster analysis can give society groups with common characteristics.

Thus, by the use of partial coefficients is possible to estimate the main effects and interactions of the three factors ('parties', 'persons', 'issues'). For the analysis to be generalized it requires the implementation of an opinion survey on a representative sample of citizens to overcome the problem of self-choosing and because of the digital environment leading to specific sample characteristics (particularly in terms of educational level, age and urbanity). The choice of coefficients is also very important. Because of the involvement of qualitative variables can not be used coefficients (such as Euclidean distance) measuring the ratio of continuous-quantitative variables.

The triangular representation, finally, may be used to connect the three factors, while assigning each citizen to a point inside the triangle can result in homogeneous groups of people exploring the relationship between other demographic variables with the three main factors.