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Introduction to Options Analysis

Options Analysis is about comparing the aggregate distributions of appeal amongst options to determine how they vary in their impacts on shares, or, how they might be changed to yield different option selection shares. In other words, it is a macro-level emergent analysis of agents' ratings of each option's attractiveness or desirability and their consequences for selection.

Distributional analysis is concerned with the scale of different appeal parameter impacts on choice. Simulation focuses on the changeability of selections as a function changes in appeal parameters.

An important associated measure is the advantage each option has relative to others. Here, "advantage" refers to the difference between the appeal of a selected option and the next most appealing option. Such differences in advantage need not be linearly related to differences in share. This is why unexpected jumps in poll shares, for example, occur from time to time, and why such jumps can be quite disproportionate to the attributed cause. This is an important reason for understanding and incorporating the separate role of appeal in the analysis of data concerned with shares. Appeal analysis makes share data more comprehensible and predictable.

Underlying Options Analysis is the assumption that evaluated selections amongst a set of options depend on the relative appeal of the alternatives. An alternative assumption that circumstances and conditions impinge directly on an option's evaluated selection, without any account of the controlling role of inter-option appeals on decision-making, is rejected.[1]

While individual assessments of appeal of each of the options determines evaluated selections, appeal in its turn is a consequence of the circumstances and conditions impinging on and within the individual. Methods for analysis of these precursors to appeal and the degree that they impact on it are appropriately the subject of conventional statistical analysis. Options Analysis is confined to analysis of relations ***between*** option appeals.

Appeal is a continuous or semi-continuous measure of wantedness – it is a measure of the motivational strength associated with each option. Options Analysis requires measurements of appeal that approach interval measurement. It is sufficient to assume that in each individual's responses there is an implicit

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[1] As indicated, this applies to ***evaluated*** options. But when all but one option is blocked i.e. when the selection of an option is automatic (via reflex, habit, script, etc.) the relationship remains direct. Most everyday decisions are made this way but much less commonly for "considered" decisions. http://www.researchonchoice.com/ provides a separate programme offering different features for the analysis of blockage and its effects on share.

capacity to distinguish equality of differences in appeal. The design of the appeal scale can support this by avoiding many of the known sources of bias referred to in the measurement literature. It is not generally a matter of critical concern that different individuals will have a different appreciation of what constitutes a unit difference on an appeal scale. Options Analysis is concerned with analysis of populations of measurements and the reproducibility of such populations in equivalent samplings.

Appeal scales need to be explicitly or implicitly bi-polar as appeal can be negative or positive – options can be repelling or attracting. Such scales will also include a point of indifference – an implicit or explicit zero point. Preferably, the scale should be unconstrained with, say, 21 scale points identified and not more than three labels, one for the positive ratings, another negative and one for indifference, with write-in boxes for "off-scale" negative and positive ratings.[2]

While, in theory, appeal is an open-ended measure, similar scales to appeal use 0-10 scales with 5 representing indifference. Similarly, the "thermometer scale", ranging from 0-100 uses 50 as a point of indifference. (Commonly, such scales are used to measure "liking" which is related to appeal but not the same. "Liking" is passive, lacking the motivational force that underlies appeal. Nevertheless, Options Analysis may be applied to "liking" data with appropriate qualifications concerning selection inferences.)[3] Measures of agreement (e.g. Likert scales) are not appropriate for measuring appeal.

Options Analysis focuses on how the differences between the distributions affect the degree of advantage and shares of selections amongst the options. So, first, Options Analysis offers an analysis of fundamentals – an analysis of the parameters that describe each of the appeal distributions – means, standard deviations, skewness, kurtosis, and correlations. Also included are the inferred shares and an analysis of blockage i.e. the influence of factors blocking appeal evaluations (such as unawareness and automatic selection).

Each parameter varies in its role on impacting advantage and share. The most important are means, standard deviations and concordance/contrast. The mean measures the general appeal, the size of the standard deviation shows the disparity of option appeal being relatively more appealing to some and less appealing to others, while concordance/contrast shows the effects of commonality or contrasts in appeal between options. Different factors or option attribute changes impinging on an option's appeal are likely to impact each parameter differently.

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[2] Examination of thermometer scale responses in the USNES suggests that about 20 points would cover nearly all scale points used and preserve the distances to which they are applied. Note, also, that the view that, say, a 7-point scale accounts for most variance in a dependent variable is not applicable to Options Analysis, which is agent-based in its thinking. Shorter scales will lead to a cruder analysis with unwarranted jumps in share or insensitivity to change. It is clear that appeal assessments are often more refined – as indicated by the thermometer scale responses – and necessary for more accurate results.

[3] It might be thought that such scales could be seen as alternatives to probability scales, but this is not correct. Appeal measures intensity of desirability while probability measures the likelihood of an event. However, when the appeal of one option is compared to another for an individual, the inferred preference is usually stated as a probability which is immediately most obvious when two options are tied in appeal so that the selection probability is 0.5.

There are two general strategies for evaluating the impacts of parameters:

1. The standardisation of one or more parameters amongst a set of options i.e. the elimination of differences amongst option parameters to evaluate consequences for advantage and share.
2. Simulation of the effects of changes made to one or more options of one or more appeal parameters to evaluate consequences for advantage and share. This is useful for the planning of strategies for change and for evaluating what size and types of change are required for a given change in shares.

The program also offers two different approaches to parameter standardisation analysis in addition to simulation analysis. What is called "functional analysis" focuses on single parameter analysis for a range of alternative parameters, or "all in" analysis. On the other hand, "structural analysis" focuses on the effects of a strictly ordered parameter standardisation analysis with the step by step effects on advantage and shares e.g. starting with means and proceeding through to concordance, or, alternatively, the other way around.

In addition to the above, Options Analysis also provides for Options Impacts Analysis. This shows the relative frequency with which each option draws its preferences from each other option and the level of option impacts on the advantage of other options. It allows an assessment of the competitive structure amongst the alternatives in terms of comparative preferences.[4]

To obtain an appreciation of the types of application of Options Analysis, you should review the already downloaded file "OA Example Analysis.xls".

An additional package, SupportDocuments.zip, is available for download from www.ResearchOnChoice.com and includes:

OptionsAnalysisTutorialAndHelpGuide.pdf : Provides detailed information about of Options Analysis and associated methods.

ChangeComponents.pdf : Provides details on the meaning and character of component effects on appeal distributions and the varieties of change affecting these parameters. Examples of product, service, policy, practice or corporate change are provided.

ChangingOptionChoice.pdf : This file covers the conceptual, measurement and analytical issues surrounding change of option appeal and choice from both the global and individual perspectives.

AppealAttributesAssociations.pdf : This file lists a range of common results of mixing the antecedent option and option change appeal distributions.

[4] www.ResearchOnChoice.com also provides a separate program for Options Impacts Analysis. While this alternative program provides for different types scale than that needed for Options Analysis, and has other flexibilities, it does not include an analysis of advantage and disadvantage in addition to that for share.