Weighting Methods (Paired Analysis)

Paired Analysis is a structured and logic-based method of establishing weightings in any scenario.

There are two levels/options of application of the Paired Analysis method of establishing weightings:

(a) Paired Analysis; and
(b) Paired Analysis with Qualitative Differentiation.

Option (a) is a basic application, while option (b) is a higher level of rationale because it applies a level of importance in the paired comparison.

The weighting is established as a percentage (%) based on comparing each evaluation criteria against each other, in a table.

Paired Analysis (Example 1) is conducted by:

(a) The Evaluation Criteria are tabled and paired;
- Each pair is compared with eachother. Each is considered as more important or not, i.e. One is more important than the other.
- Total the number of occasions where each is more important.
- Each criterion is converted to a % of total to give its WEIGHTING

Paired Analysis (Quantitative Differentiation) (Example 2) is an extension of the Paired Analysis method, but additionally applies a significance to the differentiation of each pair:

(b) The Evaluation Criteria are tabled and paired;
(c) Each pair is compared with eachother;
- Each is considered as more important or not, i.e. One is more important than the other; then
- The Degree of more importance is rated, e.g.:
  - 1= marginally more important
  - 2= moderately more important
  - 3= significantly more important
- Total the number of occasions where each is more important by degree of significance

Examples:

1. Paired Analysis:

Criteria		A	B	C	D	E	F
EC1	A						
EC2	B	A					
EC3	C	C	C				
EC4	D	D	B	C			
EC5	E	A	E	E	D		
EC6	F	A	B	C	D	E	
Total for each		3	2	4	3	3	1
		3/16	2/16	4/16	3/16	3/16	1/16
% Weighting for each		19%	13%	25%	19%	19%	6%

Note that E did not rate more significant than any other and therefore rates only 1. It cannot get '0'.

2. Paired Analysis with Quantitative Differentiation:

Criteria		A	B	C	D	E	F
EC1	A						
EC2	B	A1					
EC3	C	C2	C3				
EC4	D	D1	B2	C2			
EC5	E	A1	E3	E1	D1		
EC6	F	A3	B3	C3	D3	E3	
Total for each		5	5	10	5	7	1
		5/33	5/33	10/33	5/33	7/33	1/33
% Weighting for each		15%	15%	30%	15%	22%	3%