2.   Formulas for index calculation

The 20 content questions allow index scores to be calculated on five dimensions of national value systems as components of national cultures: Power Distance, Individualism, Masculinity, Uncertainty Avoidance, and Long-term Orientation.

All content questions are scored on five-point scales (1-2-3-4-5). Index scores are derived from the mean scores on the questions for national or regional samples of respondents.

Any standard statistical computer program will calculate mean scores on five-point scales, but the calculation can also be done simply by hand.

For example, suppose a group of 57 respondents from Country C produces the following scores on question 04 (security of employment):

10 x answer 1

24 x answer 2

14 x answer 3

5 x answer 4

1 x answer 5

3 x invalid answer*

57 in total

The calculation now goes as follows:

10 x 1   = 10

24 x 2   = 48

14 x 3   = 42

5 x 4   = 20

1 x 5   =   5

Total 54 cases = 125

Mean score: 125 / 54 = 2.31**

* Invalid answers are blanks (no answer) or multiples (more than one answer). Invalid answers are excluded from the calculation (treated as missing).

∗∗ Mean scores on five-point scales should preferably be calculated in two decimals. More decimals are unrealistic because survey data are imprecise measures.

Using fewer decimals loses valid information.

Power Distance Index (PDI)

Power Distance is defined as the extent to which the less powerful members of institutions and organizations within a society expect and accept that power is distributed unequally.

The index formula is

$$PDI = –35m(03) +35m(06) +25m(14) –20m(17) –20$$

in which m(03) is the mean score for question 03, etc.

The index normally has a value between 0 (small Power Distance) and 100 (large Power Distance), but values below 0 and above 100 are technically possible.

Individualism Index (IDV)

Individualism is the opposite of Collectivism. Individualism stands for a society in which the ties between individuals are loose: a person is expected to look after himself or herself and his or her immediate family only. Collectivism stands for a society in which people from birth onwards are integrated into strong, cohesive in-groups, which continue to protect them throughout their lifetime in exchange for unquestioning loyalty.

The index formula is

$$IDV = -50m(01) + 30m(02) + 20m(04) - 25m(08) + 130$$

in which m(01) is the mean score for question 01, etc.

The index normally has a value between 0 (strongly collectivist) and 100 (strongly individualist), but values below 0 and above 100 are technically possible.

Masculinity Index (MAS)

Masculinity is the opposite of Femininity. Masculinity stands for a society in which emotional gender roles are clearly distinct: men are supposed to be assertive, tough, and focused on material success; women are supposed to be more modest, tender, and concerned with the quality of life. Femininity stands for a society in which emotional gender roles overlap: both men and women are supposed to be modest, tender, and concerned with the quality of life.

The index formula is

$$\text{MAS} = +60m(05) - 20m(07) + 20m(15) - 70m(20) + 100$$

in which m(05) is the mean score for question 05, etc.

The index normally has a value between 0 (strongly feminine) and 100 (strongly masculine), but values below 0 and above 100 are technically possible.

Uncertainty Avoidance Index (UAI)

Uncertainty Avoidance is defined as the extent to which the members of institutions and organizations within a society feel threatened by uncertain, unknown, ambiguous, or unstructured situations.

The index formula is

$$\text{UAI} = +25m(13) +20m(16) -50m(18) -15m(19) +120$$

in which m(13) is the mean score for question 13, etc.

The index normally has a value between 0 (weak Uncertainty Avoidance) and 100 (strong Uncertainty Avoidance), but values below 0 and above 100 are technically possible.

Long-term Orientation Index (LTO)

Long-term Orientation is the opposite of Short-term Orientation. Long-term Orientation stands for a society that fosters virtues oriented towards future rewards, in particular perseverance and thrift. Short-term orientation stands for a society that fosters virtues related to the past and present, in particular respect for tradition, preservation of "face", and fulfilling social obligations.

The index formula is

$$LTO = -20m(10) +20m(12) +40$$

(revised version 1999)

in which m(10 is the mean score for question 10, etc.

The index normally has a value between 0 (very short-term oriented) and 100 (very long-term oriented), but values below 0 and above 100 are technically possible.

The formula was originally: LTO = +45m(09) – 30m(10) – 35m(11) + 15m(12) + 67. Experience with the first larger-scale application of the LTO questions, across 15 European countries in the context of a large-scale consumer survey, has shown that only questions 10 and 12 produced country scores correlated

with other LTO measures.

The questions 9 and 11 should be replaced by new questions which are still being developed. For the time being the questions 9 and 11 were maintained for research purposes.