

E1 Example Calculation of the Agreement Index of Initial Divergence in Mental Models

Purpose	Member 1	Member 2	Member 3		Mail	PP	Chat	Ticket	Board
team communication company	Chat	Chat	Mail	→	1	0	2	0	0
communication allocation of tasks	Chat	PowerPoint	Mail		1	1	1	0	0
documentation of data presentation	Chat	Chat	Mail		1	0	2	0	0
	Chat	Chat	Chat		0	0	3	0	0
	PowerPoint	PowerPoint	PowerPoint		0	3	0	0	0
					3	4	8	0	0
									= 15
				pj	3/15=0.2	0.267	0.533	0	0

Equations	Example
$p_e = \sum p_j^2$	$p_e = 0.2^2 + 0.267^2 + 0.533^2 = 0.396$
$p_0 = \frac{\sum (1/(n*(n-1)) * (\sum ni^2 - ni))}{j}$	$p_0 = (1 / (3*(3-1)) * (1^2 + 0^2 + 2^2 + 0^2 + 0^2) + \dots + (1 / (3*(3-1)) * (0^2 + 3^2 + 0^2 + 0^2 + 0^2) / 5)$
n = raters/members, i = ICTs, j = purposes	$p_0 = 0.533$
$Kappa = \frac{p_0 - p_e}{1 - p_e}$	$Kappa = (0.533 - 0.396) / (1 - 0.396) = 0.228$