

Capstone Design Team Formulation Exercise



R0.1, September 2016

This exercise is provided to give you some insight into things to consider when forming design/implementation teams. The content of this document, the method used, and the survey are taken from the book “Teamology: The Construction and Organization of Effective Teams” by Douglass J. Wilde of Stanford University. His book, published by Springer-Verlag London Ltd. in 2009, ISBN 978-1-84800-386-6, can be accessed for free via the SpringerLink portal accessible through the University of Alberta library web site.

*Adding a few people who know less, but have diverse skills,
actually improves the group’s performance.*
– James Surowiecki, The Wisdom of Crowds, 2004

The approach here uses Jung’s cognition theory and a variation of the Myers-Briggs Type Indicator (MBTI) to look at an individual’s “modalities”. Having these modalities covered by a formed group has proven to lead to improved performance and better learning. Most individuals naturally operate in one or two areas, shown in Table 1.1, below, taken directly from the book.

Table 1.1 Jung’s cognitive modes

Extraverted Sensing <i>ES</i> EXPERI- MENT	Extraverted iNtuition <i>EN</i> IDEATION	-	Extraverted Thinking <i>ET</i> ORGANI- ZATION	Extraverted Feeling <i>EF</i> COMMU- NITY
				
Introverted Sensing <i>IS</i> KNOW- LEDGE	Introverted iNtuition <i>IN</i> IMAGI- NATION	-	Introverted Thinking <i>IT</i> ANALYSIS	Introverted Feeling <i>IF</i> EVALUA- TION
INFORMATION COLLECTION			DECISION-MAKING	

Complete the questionnaire on the next page to find out where you prefer to operate!

Circle zero, one or two alternatives for each of 20 questions.

Be careful with signs!

Energy Direction: Outward or Inward

EI1	You are more:	<input checked="" type="radio"/> (e)	sociable	<input type="radio"/> (i)	reserved
EI2	You are more:	<input checked="" type="radio"/> (e)	expressive	<input type="radio"/> (i)	contained
EI3	You prefer:	<input checked="" type="radio"/> (e)	groups	<input checked="" type="radio"/> (i)	individuals
EI4	You learn better by	<input checked="" type="radio"/> (e)	listening	<input checked="" type="radio"/> (i)	reading
EI5	You are more:	<input checked="" type="radio"/> (e)	talkative	<input type="radio"/> (i)	quiet

EI difference: $\Sigma e - \Sigma i = EI$ 3

Orientation: Structured or Flexible

JP1	You are more:	<input checked="" type="radio"/> (j)	systematic	<input type="radio"/> (p)	casual
JP2	You prefer activities:	<input checked="" type="radio"/> (j)	planned	<input type="radio"/> (p)	open-ended
JP3	You work better	<input checked="" type="radio"/> (j)	with pressure	<input type="radio"/> (p)	without pressure
JP4	You prefer:	<input checked="" type="radio"/> (j)	routine	<input checked="" type="radio"/> (p)	variety
JP5	You are more:	<input checked="" type="radio"/> (j)	methodical	<input checked="" type="radio"/> (p)	improvisational

JP difference: $\Sigma j - \Sigma p = JP$ 2

Information COLLECTION process: Facts or Possibilities

SN1	You prefer the:	<input type="radio"/> (s)	concrete	<input checked="" type="radio"/> (n)	abstract
SN2	You prefer:	<input checked="" type="radio"/> (s)	fact-finding	<input checked="" type="radio"/> (n)	speculating
SN3	You are more:	<input type="radio"/> (s)	practical	<input type="radio"/> (n)	conceptual
SN4	You are more:	<input checked="" type="radio"/> (s)	hands-on	<input type="radio"/> (n)	theoretical
SN5	You prefer the:	<input type="radio"/> (s)	traditional	<input checked="" type="radio"/> (n)	novel

SN difference: $\Sigma s - \Sigma n = SN$ 0

DECISION-making process: Objects or People

TF1	You prefer:	<input checked="" type="radio"/> (t)	logic	<input checked="" type="radio"/> (f)	empathy
TF2	You are more:	<input checked="" type="radio"/> (t)	truthful	<input type="radio"/> (f)	tactful
TF3	You see yourself as more:	<input checked="" type="radio"/> (t)	questioning	<input type="radio"/> (f)	accommodating
TF4	You are more:	<input checked="" type="radio"/> (t)	skeptical	<input type="radio"/> (f)	tolerant
TF5	You think judges should be:	<input checked="" type="radio"/> (t)	impartial	<input type="radio"/> (f)	merciful

TF difference: $\Sigma t - \Sigma f = TF$ 1

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Compute and record **non-negative** scores below.

EI - JP + 2SN = ES <u>1</u>	EI - JP - 2SN = EN <u>-1</u>	-	EI + JP + 2TF = ET <u>9</u>	EI + JP - 2TF = EF <u>-3</u>
EXPERI- MENT	IDEATION		ORGANI- ZATION	COMMU- NITY
X			X	
- EN = IS <u>1</u>	- ES = IN <u>-1</u>	-	- EF = IT <u>3</u>	- ET = IF <u>-9</u>
KNOW- LEDGE	IMAGI- NATION		ANALYSIS	EVALU- ATION
INFORMATION COLLECTION			DECISION-MAKING	

Please note that this categorization is approximate, and indicates only affinities for the cognition modes!

Forming a group with these modes covered to varying degrees makes it more likely that when the group is presented with a problem, differing perspectives are coming into play. As we will see throughout the course, having differing perspectives is *very* important in achieving a solid, practical design.

Please detach this portion of the sheet and submit!

Name: **Daylen Mackey**

ID: **1444775**

Modality	Your Score
ES	1
EN	-1
IS	1
IN	-1
ET	9
EF	-3
IT	3
IF	-9