Soft Systems Thinking, Methodology and the Management of Change

Brian Wilson

and

Kees Van Haperen





Contents

La	ist of F	figures	xiv
Li	ist of T	Tables .	XX
Pı	reface		XX
A	cknow	ledgements	xxiv
Pı	rologue	e: A Brief History of 'Systems' at Lancaster University	xxvi
Pa	art I	Fundamentals	1
1	1.1	roduction Change and defensibility What is systems thinking?	3 3 5
2	Org 2.1 2.2 2.3	1 11 -	11 11 15 17
3	An (Overview of Soft Systems Methodology (SSM) Conceptual model building 3.1.1 Tameside children's services 3.1.2 Generic modelling 3.1.3 Tameside – expanded root definition	20 24 24 28 34
4	Feat 4.1 4.2 4.3 4.4 4.5 4.6 4.7 4.8	Issue-based/primary-task analysis Information requirements analysis 'Enterprise' primary-task model building Obtaining stakeholder 'buy-in' A consensus issue-based model (CIBM) Software support 'Support' subsystems Summary of Part I	38 39 48 52 56 61 62 64
Pa	rt II	Advanced Concepts	71
5	A P	ublishing System	73
6	A Policing System 74		

7	A Healthcare System			75
8	Pertemps People Development Group (PPDG)			
9	Defence Systems			
10	Centre of Excellence			79
11	A Government System			
12	Other Government Departments (OGD)			81
13	A Ch	arity		82
14	Information Assurance (IA)			83
15	Gene	ric Syste	ems	84
16	Summary of Part II			85
D	. TTT	00-		0.5
		Case St		87
17			siderations	89
		Introdu		89
	17.2	Use of t	cools ucture and information for the case studies	91 92
				94
18			: Aiding Good Practice - Technology Enabled	0.4
	Char	_		94
		Introdu		94
	18.3		overview sengineering: a home office and HMRC capability	96 97
	10.5	18.3.1		97 97
		18.3.2	Systems engineering (related to 'hard' as well	91
		10.5.2	as 'soft' systems)	98
		18.3.3	Overview of the Cyclamen project	100
		18.3.4	Problem and concept	101
		18.3.5	Approach to the solution in its wider context	104
		18.3.6	Overall systems engineering approach	109
		18.3.7	Learning/reflection	110
		18.3.8	Other applications: the Royal Navy aircraft	
			carrier programme	111
		18.3.9	Other applications: military interoperability	117
	18.4	_	rise architecting and requirements management	130
		18.4.1 18.4.2	Introduction to enterprise architecting	130
		10.4.2	Hachette Livre UK, a business systems alignment study	122
		18.4.3	Problem and concept	133 134
		18.4.4	Architecting and Devon and Cornwall	134
		20.1.1	Constabulary transformation	143
		18.4.5	MoD and RAF Air Command and Control	173
			future capability	146
		18.4.6	Brief summary	152

19	Case	Studies: A	iding Good Practice – Management Concepts	153	
	19.1	Introducti	on	153	
	19.2	2 Tabular overview			
	19.3	.3 Programme and project management: Skanska BOT			
		19.3.1 S	SM in the context of programme and		
		р	roject management	155	
		_	Our approach	156	
			Generic models	160	
	19.4	Strategic-	operational business alignment: Pertemps		
			evelopment Group	161	
		19.4.1 C		161	
		19.4.2 P	roblem and concept	162	
			earning/reflection	164	
	19.5		nd acquisition: Alliance Medical and		
		Lodestone	_	175	
		19.5.1 C	Context	175	
		19.5.2 P	roblem and concept	176	
		19.5.3 L	earning/reflection	179	
30	C4		_	101	
20			ng and Macro Issues	181	
	20.1	Backgroun		181	
			ntroduction	181	
		20.1.2 IV	Aacro issues as wicked problems	182	
			Harder' systems thinking The macro issues	182	
	20.2			184	
	20.2		ategy for Canada?	186	
			ackground	186	
			ntroductory comments on strategy	186	
	20.2		pplying systems thinking	188	
	20.3	Counterterrorism and insurgency: a complex systems		102	
		approach		193	
			ackground	193	
			ormulating our thinking	194	
			our proposal	194	
			eveloping our concept in more detail	196	
	20.4		elevance of the CPTM	202	
	20.4 E-Government, transformational government and			202	
		citizen serv		203	
			ackground	203	
			hy apply SSM?	204	
	20.5		ean systems/Vanguard method	209	
	20.5	In summar	cy .	216	
21	Justic	e, Ministry	of Justice	218	
	21.1 Two cases related to the Ministry of Justice: prisons				
	and prison escort			218	
	21.2	Tabular ov		218	
		Context to both cases			

x CONTENTS

	21.4	First pro	oject: bidding for Prisoner Escort and Custody	
		Services	(PECS)	220
		21.4.1	Problem, need	220
		21.4.2	Team	222
		21.4.3	Description of the approach	223
		21.4.4	Scope of the models	224
		21.4.5	Mapping	230
		21.4.6	Tools	234
		21.4.7	Output/outcomes	234
		21.4.8	Duration and level of effort	236
		21.4.9	Benefits (cost)	236
		21.4.10	Learning and reflection	237
	21.5	Second p	project: bidding for five prisons	237
		21.5.1	Problem, need	237
		21.5.2	Team	238
		21.5.3	Description of the approach	238
		21.5.4	Mapping	246
		21.5.5	Method and approach	248
		21.5.6	Comparison	250
		21.5.7	Creating performance indicators	254
		21.5.8	Tools	258
		21.5.9	Output/outcome	259
		21.5.10	Duration and level of effort	259
		21.5.11	Benefits (cost)	259
		21.5.12	Learning/reflection	260
22	Heal	thcare		262
	22.1	Compler	mentary cases with a healthcare theme	262
	22.2	_	overview	263
	22.3	North ar	nd South trafford primary care trusts	264
		22.3.1	Context	264
		22.3.2	Problem, need	265
		22.3.3	Team	266
		22.3.4	Description of the approach	267
		22.3.5	Mapping	268
		22.3.6	Tools	270
		22.3.7	Output/outcome	271
		22.3.8	Duration and level of effort	272
		22.3.9	Benefits (cost)	272
		22.3.10	Learning/reflection	272
	22.4	National	l Programme for Information Technology	
		(NPfIT)	and the integration challenge	274
		22.4.1	Context	274
		22.4.2	Problem, need	275
		22.4.3	Description of the approach	. 277
		22.4.4	Developing an EIA framework relevant to	
			the needs of NHS CfH	279

		22.4.5	Develop an EIA Vision statement and	
			supporting EIA governance structure	280
		22.4.6	Mapping	285
		22.4.7	Tools	288
		22.4.8	Output/outcome	288
		22.4.9	Duration and level of effort	289
		22.4.10	Benefits (cost)	289
			Learning/reflection	289
	22.5		Neurone Disease (MND) Association:	
			mation strategy	291
		22.5.1	Context	291
		22.5.2	Team	292
		22.5.3	Description of the approach	292
		22.5.4	Stage 1, workshop 1	296
		22.5.5	Stage 1, workshop 2	300
		22.5.6	Mapping	30€
		22.5.7	Tools	311
		22.5.8	Output/outcome	313
		22.5.9	Duration and level of effort	313
		22.5.10	Benefits (cost)	314
		22.5.11		314
	22.6		lirection for a national forum for nursing	315
		22.6.1	Context	315
		22.6.2	Problem, need	315
		22.6.3	Team	315
		22.6.4	Description of the approach	316
		22.6.5	Mapping	318
		22.6.6	Tools	319
		22.6.7	Output/outcome	322
		22.6.8	Duration and level of effort	322
		22.6.9	Benefits (cost)	322
		22.6.10	Learning/reflection	322
			Dour migration of the state of	
23	Polic	_		323
		Tabular (323
	23.2	-	ng regional policing: a review of protective	
		services		324
		23.2.1	Context	324
		23.2.2	Problem, need	325
		23.2.3	Team	326
		23.2.4	Description of the approach: RP, IB, CPTM,	
			ICs, and MOPs	326
		23.2.5	Mapping: protective services vs.	
			micro-analysis and regional threats and assets	336
		23.2.6	Tools	339
		23.2.7	Output/outcome	339
		23.2.8	Duration and level of effort	340

		23.2.9	Benefits (cost)	341
		23.2.10	Learning/reflection	341
	23.3	Benefits	for Cleveland police	342
		23.3.1	Context	342
		23.3.2	Problem, need	343
		23.3.3	Team	343
		23.3.4	Description of the approach	343
		23.3.5	Mapping: organisation, roles, activities/functions	346
		23.3.6	Tools	348
		23.3.7	Output/outcome	351
		23.3.8	Duration and level of effort	360
		23.3.9	Benefits (cost)	361
		23.3.10	Learning/reflection	361
24	Defe	nce		362
	24.1	SSM and	d defence	362
	24.2		overview	362
	24.3	MoD De	efence Procurement Agency's integration	
			strategy	364
	24.4		pt for Army force capability generation	365
	24.5		rrounding the delivery of expeditionary	
			support capability	365
	24.6		port to AMS for a joint fire support	
			d information system	365
	24.7		ment of BAE systems' capability management	
		and its n	nilitary and technology services	366
25		0	emarks and Observations	369
	25.1	Reflection		369
	25.2		ng success	371
	25.3		ry of Parts I, II, and III	375
	25.4		y of approaches	375
	25.5		y systems of relevance and interest	376
	25.6		ry of engagements	378
		25.6.1	Type of customer	378
		25.6.2	Number and types of stakeholders	378
		25.6.3		378
		25.6.4	Type of problematic situation	379
		25.6.5	Desired (output) outcome	379
		25.6.6		379
		25.6.7	SSM delivery team	380
		25.6.8	Ways in which to deliver or involve the	• • •
		0.7.1.0	stakeholder	380
		25.6.9		380
	25.5		Multi-methodology	381
	25.7	Past or f	tuture	381

	CONTENTS xiii
Appendix I: A Taxonomy of SSM-Related Terms	384
Notes	390
Index	401