Use and Redesign in IS: Double Helix Relationships? A monograph of the Informing Science Journal, Volume 10, 2007

Index

A

abstracted reflection, 33 Ackoff, 101 aggregate, 36, 42 Allende, 171 Altshuller, 153 Alvesson, 243 apparent invariance, 29 Argyris, 103 automatic control system, 50 autonomous network, 40 autonomy, 40, 43 autonomy of interpretation, 50 awareness, 12, 13

B

Bateson, 12, 36, 41, 80, 102, 276, 285, 289, 292 Beer, 9, 13, 127, 134, 158, 166, 181, 186, 193, 200 behavioral view, 81 biology of cognition, 8, 67 Boden, 131, 146, 191 body, 13 Bourdieu, 242, 243, 257 bricolage. See improvisation Buddhism, 9, 13, 127, 129, 138, 172, 193.199 Buddhist Meditation, 129, 133, 135, 136, 142, 161 Burrell and Morgan, 242, 257 buzzwords, 29

С

calculus, 47 categorization, 11 of IS Research, 244 categorizing prototype theory, 32, 42 category, 32 set-theoretically based, 52 chains

closed cause-effect, 50 chains of determination, 43, 50 circular and more complex, 42, 50 change agent, 8, 101 Checkland, 6, 31, 106, 280 Churchman, 8, 106, 107, 116 Ciborra, 3, 280, 285 circular chains of determination, 50 classification of research, 243 single paradigm, 243 classification schemes of IS research. 241 alternative, 244 clientele, 3, 11 closed cause-effect chains, 50 coding, 43 co-evolution, 9, 127, 134, 142, 152, 163 cognitive point of view, 80 cognitive process, 8 cognize, 32 Cohen, 22 communication, 53 human, 53 Community, 204, 215, 228, 230 Community Informatics, 204, 216 complexity, 13, 275, 281, 282, 291 complexity theory, 13 composite unity, 82 computer model, 56 computer program, 56 connotational, 26 consciousness, 23 contextual complexities, 102 contextual dependencies, 277, 278, 290, 293 contradiction, 127, 153, 154 Contradiction Matrix, 154 creativity, 9, 12 critical social theories, 11 cultural institution, 10 culture, 14 culture in communities, 203

D

data, 8, 22, 25, 42, 45, 51, 55 data interpretation, 8 data processing, 51, 58 data processing system, 45, 51 data quality, 58 data source, 55 Davenport, 100 Deetz, 243, 258 denotational, 25 depiction bottleneck, 85 description, 36, 39 design, 99, 104, 118 of a pedagogy, 108 of organisational process, 108 of projects, 115 diachronic observations, 25 dialectic, 2, 11, 14, 154 dialectic relationship, 7 dialectics, 9 Diamond of Creating, 156 of Problem-solving, 156 Diamond Map of Co-evolution, 163 Diamond Map of Design, 137, 141, 155, 158 Diamond Model, 134, 148, 176, 177, 183, 192, 201 Diamond Model for Engineering Design, 180 Diamond Model of Designer-User Interaction, 127, 181, 186 difference, 41, 43 discursive commensurability, 261 discursive consciousness, 23 DNA, 2 double bind, 287, 288, 289 double helix, 2, 4, 30, 33, 286 double helix metaphor, 2, 4, 7, 39, 59, 273, 280, 287, 291 double helix relationships, 21 dynamic, 5

E

electronic data processing, 51 embodied mind, 12

embodiment, 40 emergence, 216, 278, 290, 292 enact, 35, 40 enactive cognitive science, 8, 67 enactment bottleneck, 85 end users, 9 Engineering Design, 9, 127, 135, 152, 159, 163, 172, 197 Enterprise Resource Planning, 99, 111 epistemological ideas, 13 Etzioni, 245, 257 everyday life interaction, 13 everyday life situation, 5 exceptional case, 56 expressiveness, 53 expressiveness of schematized languages, 52 extensional, 25

F

first order predicate logic, 47 first person perspective, 8, 12, 65 first-order transformations, 78 first-person agent, 44 Fordism, 203, 208, 210 formal model, 55, 58 Foucault, 242, 243, 259 Four Noble Truths, 136 framework, 14

G

Gadamer, 103 Galtung, 7, 27 generic metaphor, 30 Generic Process of Creating, 160 Giddens, 11, 13, 23, 204, 210, 218, 242, 248, 258 Giddens' theory of structuration, 10 growth of knowledge, 6

H

Habermas, 242, 243, 245, 252, 257 HD. *See* hermeneutic dialectics HD traditions, 25 Heidegger, 281, 285, 290 hermeneutic dialectics, 276, 279 hermeneutic-dialectic schools of metascience, 7, 24, 276 hermeneutics, 63, 67, 89, 104, 120, 276, 279 heteronomy, 40 hidden ideologies, 29 higher-order transformations, 78 historical contexts, 25 history, 5, 7, 26 horizon exercise, 87 human activity system, 278, 291 human communication, 53 human everyday life interaction, 13 human expressiveness, 22

I

idealize, 38 identity gender, 10 rural, 10 ideology, 27 immediate experience, 33 implement, 38, 50, 59 improvisation, 286 indivisibility of theory and practice, 4 Infological Equation, 274, 277, 281 information, 22 Information Continuum Model, 204, 222 information processing, 51 information system definition, 280 information systems development techno-centric, 10 user-centric, 10 information technology analyst, 3, 4, 7 informing science, 5, 22, 43 informing system, 23, 29, 36, 50 description, 51 purpose, 281 use and redesign, 53 informing systems research, 14 innovation, 9

input data, 51 instrumental reason, 12, 45 intentional, 26 interactive program, 56 interpretation, 22 interpretation of data, 50 interventions, 73 invariance, 7, 28 apparent, 29 breaking, 7 seeking, 7 invariance breaking, 27, 29 invariance seeking, 27 invariant, 28 IS research literature, 11, 237, 240 classification, 241, 246, 264

K

know the verb, 30 knowledge schoolbook and practical, 30 Knowledge Management, 204, 216, 222 knowledge processing, 51

L

Langefors, 274, 276, 277, 281 language game, 48, 49, 53 languaging, 46 LE. See logical-empirical LE traditions, 25 learning, 6, 11 learning set, 97, 99, 104, 109, 117 on-line, 111, 113 learning spiral, 275, 288 Leonard, 168, 186, 201 level of abstraction, 37, 42, 50 Levi-Strauss, 245, 262 library, 10 logical empiricism, 69 logical level, 35, 50 logical syntax, 47 logical type, 37, 42 logical-empirical, 276

logical-empirical schools of metascience, 7, 24 Luhmann, 245 Lyytinen, 100, 245, 262

Μ

Mandala, 127, 134, 141, 145, 160, 196 geometry, 151 of the five Buddha families, 148, 169, 179, 186 Mandala for Engineering Design, 171, 177 manipulated, 25 manipulators, 25 Maslow, 139 Maturana, 8, 31, 67, 132, 135, 153, 276 maximization, 22 meaning shaping, 279 measures of performance, 109 meditation, 135 meta-data, 22 meta-model, 38 metaphor, 7, 13, 31, 289, 291, See also double helix metaphor double helix, 274, 287 generic, 30 metascience schools of, 24 methodology, 27 middle manager, 8, 101 mind. 41. 42 mind-body problem, 39, 40 split, 39 mindfulness, 13 mode 2 type of research, 9 model, 36, 38, 39, 97, 105 computer, 56 explicit, 36 formal, 22, 55, 58 of organisational processes, 113, 114 of process, 118 organizational, 106 teleological, 108, 115, 119

teleological process, 105, 112, 117 model transparency, 57 model transparency engineering, 7, 57, 59 model transparency problem, 58 Mumford, 3, 6, 277, 281, 282 museum, 10 mutual learning, 2, 4, 39, 72

N

needs analysis, 214 net of concepts, 23, 29, 35 network autonomous, 40 non discursive practice, 13

0

ontogeny, 37 OODA Loop, 83 operational closure, 40, 43 operationalisation, 100, 109, 115, 119 operationally closed, 39 operationally closed system, 40 orders of learning, 277, 285, 286, See also Bateson organisational problem-solving, 98, See also problem solving orientee, 50, 52 orienter, 52 Orlikowski, 204, 219, 239, 241, 242, 248 output data, 51

Р

paradigm, 242, 258, 263 paradigmatic divide, 11 participatory design, 45, 68 pattern, 12 pedagogic, 98, 112, 113 pedagogy, 8, 44, 97, 98, 101, 109, 115, 116, 119 design, 101

for organisational problemsolving, 103 Peirce, Charles S., 67 Personal Computing/Internet threshold, 10, 203, 208 perspective first-person, 58 hermeneutic, 11 phenomenological, 11 third-person, 58 phenomenological, 120 phenomenology, 63, 67, 89, 273 philosophical doubt, 276 philosophical questions, 14 phylogeny, 37 practical consciousness, 23 practice, 7 practitioner, 5 praxio-focal, 8, 78 praxis, 8, 35, 65 everyday life, 35 predecessor, 14 preferred worlds, 27 problem-solving, 98, 103, 111, 117, 120 Problem-Vantage-Frame, 89 program computer, 56 interactive, 56

R

radical constructivism, 8, 67 Radnitzky, 24, 30, 101, 104, 276 rationality, 44, 45 recognize, 32 recurrence, 38 recursion, 192 recursive view, 81 reflecting, 23 requirements engineering, 7, 48, 55, 59, 60 research guiding interest, 30, 59 researcher, 4, 5, 7, 9 resource, 35 rhetoric, 26

S

schools of metascience, 7, 24, 25 hermeneutic-dialectic, 24 logical-empirical, 24 Schutz, 103, 141, 152, 159 Schwaninger, 184 second-order cybernetics, 8, 67 self-organization, 40 sense-making, 9, 273, 274, 275, 277, 280, 282, 285, 286, 289, 292 simple unity, 81 situation poorly structured, 13 structured, 13 social process, 97, 103, 108, 110, 117, 118 social theories for capturing user concerns, 241 soft systems methodology, 6, 13, 68 ST, 248, See also structuration Strategic Systemic Thinking Framework, 12 structuration, 10, 205, 211, 218, 221, 230, 237, 245, 248 and TCA, 259 constituents of, 249 structuration theory, 11, 242 subjectivity, 65 synchronic observations, 25 Syntegrity, 127, 134, 184, 186, 193 system closed, 40 open, 40 operationally closed, 40 system analyst, 12 Systems Theory, 97, 107

Т

task analysis, 214 Taylorism, 211 TCA, 242, 243, 245 and structuration, 259 Team Syntegrity, 9, 13, *See* also Syntegrity teleological models, 108 teleology, 103, 107, 118, 121

theory, 7 Theory of Communicative Action, 242, See also TCA Theory of Music, 162 theory of structuration, 13 thinking about thinking, 4, 11 third-person analyst, 44 third-person perspective, 12, 82 Three Jewels, 143, 179 Three Pillars, 146, 179 threshold, 41, 43 traditions, 24 hermeneutic-dialectic (HD), 25, 46 logical-emperical (LE), 25, 46 scientific, 24 transdiscipline, 22 TRIZ, 153 two-valued logic, 50, 53

U

UCD, 205, 211, 213, 214, 221, 230, *See* also User-Centred Design Ulrich, 278, 287 under-researched areas, 11 unit of investigation, 37 unlearning, 6 usability, 11 use, 11 use case, 57, 59 use side, 238 usefulness, 11, 275, 284, 285, 290 user perspective, 238 User-Centred Design, 10, 204, 206, *See* also UCD

V

value criteria, 22, 59 value sentences, 27 values, 25, 27 vantage, 89 Varela, 8, 31, 39, 67, 132, 135, 153, 276 venues, 82 verb, 30, 31 verum factum, 27 Viable System description, 149 Viable System Model, 9, 13, 127, 158, 166, 169, 193 Vico, 26 von Neumann computers, 51 VSM. *See* Viable System Model

W

Watzlawick, 53 Weick, 9, 103 Wittgenstein, 47 WoFG, 227, *See* Women on Farms Gathering Women on Farms Gathering, 227 work milieu, 8 work-centered design, 78 work-centered support systems, 78 worker, 2, 4, 7, 8, 12 worker experience, 8 worker praxis, 8 work-task-game, 49

Z

Zmud, 100, 248, 250