

A Keyword Classification Scheme for IS Research Literature: An Update

By: Henri Barki

École des Hautes Études
Commerciales
5255 Decelles
Montréal, Québec, Canada H3T 1V6

Suzanne Rivard
École des Hautes Études
Commerciales
5255 Decelles
Montréal, Québec, Canada H3T 1V6

Jean Talbot
École des Hautes Études
Commerciales
5255 Decelles
Montréal, Québec, Canada H3T 1V6

Keywords: IS research frameworks, diffusion of
IS research, IS literature, information
search and retrieval

ISRL Categories: HA0901, IB02, IB0301,
IB0301.01

In June 1988 *MIS Quarterly* published a classification scheme of IS keywords. The development of this scheme was intended to provide a description of the discipline, introduce a common language, and enable research of the field's development. The scheme has been recently updated in order to incorporate the new research topics and methods, hence better reflecting the evolution of the IS discipline.

In order to conduct this revision, all the articles that had been published in *MIS Quarterly*, *Journal of MIS*, *Information and Management*, as well as all the IS articles published in *Management Science* and *Communications of the ACM*, between 1987 and 1992 inclusive, were consulted. All the articles published in *Information Systems*

Research from its beginning until fall of 1992, and all the IS articles published in *Organization Science* since its beginning, were also included. The total number of keywords identified from this exercise was approximately 2,000. Each of these keywords was examined by all three authors in relation to the classification scheme, and a decision was made with respect to its inclusion. In all cases the authors agreed on whether or not to include a keyword and where in the scheme to put it.

The new scheme now includes nearly 1,300 keywords, which represents an addition of more than 175 new words (listed in Appendix A) to the previous version. Among these are 32 new keywords added to the RESEARCH section (section AI) in order to better describe the research approaches and methods. Other additions include recent developments such as hypertext, object-oriented analysis, and electronic meetings. The scheme's categories are basically unchanged, and as can be seen in the Appendix, only 10 keywords from the original version were deleted.

A scheme such as this has three important functions. First, it defines the field of IS in some detail. Second, it provides a common vocabulary. Third, it provides a tool with which the evolution of research can be studied. The second function served by the scheme is especially important in a rapidly changing domain such as IS. The lack of a common vocabulary among researchers is a problem that cannot be solved by computerized search systems. Researchers regularly conduct bibliographical searches in different computerized databases that are continuously getting bigger and faster. However, lacking a common research vocabulary, such searches are not as fruitful as they could be. That is, while their recall (the proportion of material actually retrieved) might be high, their precision (the proportion of the retrieved material that is found relevant) is often low. The reason for this is that many researchers use different terms to describe articles dealing with similar subjects. Since most databases index the articles according to the keywords used by the authors, it becomes impossible to have high precision in a database search unless one knows all the different terms used by the different authors. Even with full text searches, one still has to know which keywords to look for. The classification scheme provides a much needed common vocabulary.

A Keyword Classification Scheme for IS Research Literature

| | |
|-------------------------------------|----------------------------------------|
| A REFERENCE DISCIPLINES | EC HARDWARE RESOURCE MANAGEMENT |
| AA BEHAVIORAL SCIENCE | ED SOFTWARE RESOURCE MANAGEMENT |
| AB COMPUTER SCIENCE | EE IS PROJECT MANAGEMENT |
| AC DECISION THEORY | EF IS PLANNING |
| AD INFORMATION THEORY | EG ORGANIZING IS |
| AE ORGANIZATIONAL THEORY | EH IS STAFFING |
| AF MANAGEMENT THEORY | EI IS EVALUATION |
| AG LANGUAGE THEORIES | EJ IS CONTROL |
| AH SYSTEMS THEORY | EK IS SECURITY |
| AI RESEARCH | EL IS MANAGEMENT ISSUES |
| AJ SOCIAL SCIENCE | |
| AK MANAGEMENT SCIENCE | F IS DEVELOPMENT AND OPERATIONS |
| AL ARTIFICIAL INTELLIGENCE | FA IS DEVELOPMENT STRATEGIES |
| AM ECONOMIC THEORY | FB IS LIFE CYCLE ACTIVITIES |
| AN ERGONOMICS | FC IS DEVELOPMENT METHODS AND TOOLS |
| AO POLITICAL SCIENCE | FD IS IMPLEMENTATION |
| AP PSYCHOLOGY | FE IS OPERATIONS |
| | |
| B EXTERNAL ENVIRONMENT | G IS USAGE |
| BA ECONOMIC ENVIRONMENT | GA ORGANIZATIONAL USE OF IS |
| BB LEGAL ENVIRONMENT | GB USERS |
| BC POLITICAL ENVIRONMENT | GC TYPE OF IS SUPPORT |
| BD SOCIAL ENVIRONMENT | GD TYPE OF IS ACCESS |
| | GE TYPE OF PROCESSING |
| C INFORMATION TECHNOLOGY | |
| CA COMPUTER SYSTEMS | H INFORMATION SYSTEMS |
| CB SOFTWARE | HA TYPES OF INFORMATION SYSTEMS |
| | HB IS APPLICATIONS AREAS |
| D ORGANIZATIONAL ENVIRONMENT | HC COMPONENTS OF IS |
| DA ORGANIZATIONAL CHARACTERISTICS | HD IS CHARACTERISTICS |
| DB ORGANIZATIONAL FUNCTIONS | |
| DC TASK CHARACTERISTICS | I IS EDUCATION AND RESEARCH |
| DD ORGANIZATIONAL DYNAMICS | IA IS EDUCATION |
| | IB IS RESEARCH |
| E IS MANAGEMENT | IC IS PROFESSIONAL SOCIETIES |
| EA DATA RESOURCE MANAGEMENT | ID HISTORY OF IS |
| EB PERSONNEL RESOURCE MANAGEMENT | |

Please note

Two descriptors—UF, USE—are used in the classification scheme as relational attributes between keywords. The standard notation for these descriptors is as follows:

Keyword 1
DESCRIPTOR Keyword 2

Below are examples for the two descriptors used in the classification scheme as relational attributes.

UF: USED FOR: indicates that keyword 1 should be used instead of its synonym, keyword 2.

| | |
|---------------------|---------------------------------|
| Keyword 1 | HIGH LEVEL LANGUAGES |
| UF Keyword 2 | UF PROCEDURAL LANGUAGES |
| | UF PROGRAMMING LANGUAGES |

USE: Indicates that keyword 2 should be used instead of keyword 1.

| | |
|----------------------|-----------------------------------|
| Keyword 1 | INFORMATION QUALITY |
| USE Keyword 2 | USE INFORMATION ATTRIBUTES |

A - REFERENCE DISCIPLINES

AA BEHAVIORAL SCIENCE

UF ORGANIZATIONAL BEHAVIOR

- AA01 BEHAVIOR
 - UF HUMAN BEHAVIOR
 - AA0101 Cognitive dissonance theory
 - AA0102 Theory of reasoned action
- AA02 HUMAN FACTORS
 - UF BEHAVIORAL FACTORS
- AA03 INDIVIDUAL DIFFERENCES
 - UF INDIVIDUAL CHARACTERISTICS
 - AA0301 Cognitive style
 - AA0302 Locus of control
 - AA0303 Personality
- AA04 HUMAN INFORMATION PROCESSING
 - AA0401 Information recall
- AA05 ATTITUDES
 - AA0501 Attribution theory
 - AA0502 Equity theory
- AA06 LEARNING MODELS
- AA07 MOTIVATION
 - AA0701 Expectancy theory
- AA08 SATISFACTION
 - AA0801 Job satisfaction
- AA09 GROUPS
 - AA0901 Anonymity
 - AA0902 Facilitation
 - AA0903 Group processes
- AA10 CONFLICT RESOLUTION
- AA11 CHANGE THEORY
 - AA1101 Change
 - AA1102 Resistance to change
- AA12 ROLE THEORY
 - AA1201 Role preferences
 - AA1202 Role conflict
 - AA1203 Role ambiguity

AB COMPUTER SCIENCE

USE INFORMATION TECHNOLOGY

AC DECISION THEORY

UF DECISION SCIENCES

- AC01 DECISION
- AC02 DECISION MODELS
- AC03 PROBLEM SOLVING
 - AC0301 Problem-solving behavior
 - AC0302 Interactive problem solving
 - AC0303 Knowledge utilization
 - AC0304 Problem diagnosis
 - AC0305 Problem representation
- AC04 DECISION-MAKING PROCESSES
 - UF DECISION MAKING
 - UF DECISION PROCESSES
 - AC0401 Individual decision making
 - AC0402 Group decision making
 - AC0403 Organizational decision making
 - AC0404 Management decision making
 - AC0405 Participative decision making
 - AC0406 Decision making under risk and uncertainty
 - AC0406.01 Probability assessment
- AC05 DECISION MAKERS
 - AC0501 Decision-making style
- AC06 DECISION RULES
 - AC0601 Linear decision rules
 - AC0602 Heuristic decision rules
- AC07 COGNITIVE SCIENCE
- AC08 DECISION AIDS

AD INFORMATION THEORY

- AD01 INFORMATION
 - AD0101 Strategic information
 - AD0102 Information in organizations

AD02 INFORMATION ECONOMICS

AD03 INFORMATION PRESENTATION

AD04 INFORMATION CHANNELS

AD05 INFORMATION ATTRIBUTES

UF INFORMATION CHARACTERISTICS

UF INFORMATION QUALITY

- AD0501 Currency of information
- AD0502 Frequency of use
- AD0503 Level of aggregation
- AD0504 Relevance of information
- AD0505 Source of information
- AD0506 Information scope
- AD0507 Timeliness of information
- AD0508 Information structure
- AD0509 Age of information
- AD0510 Reliability of information
- AD0511 Accuracy of information
- AD0512 Utility of information
- AD0513 Adequacy of information
- AD0514 Data integrity
- AD0515 Quantity of information
- AD0516 Recency of information
- AD0517 Value of Information
 - AD0517.01 Strategic value
- AD0518 Information richness

AD06 INFORMATION PROCESSING

AE ORGANIZATIONAL THEORY

USE ORGANIZATIONAL ENVIRONMENT

AF MANAGEMENT THEORY

- AF01 MANAGEMENT
 - AF0101 TQM
 - UF Total quality management
- AF02 LEADERSHIP
- AF03 MANAGEMENT STYLE
- AF04 MANAGEMENT ACTIVITIES
 - AF0401 Planning
 - AF0401.01 Strategic planning
 - AF0401.02 Corporate strategy
 - AF0401.03 Planning horizon
 - AF0401.04 Contingency planning
 - AF0402 Organizing
 - AF0403 Staffing
 - UF Personnel management
 - UF Human resource management
 - AF0404 Control
 - AF0404.01 Standards
 - AF0404.02 Managerial control
 - AF0404.03 Operational control
 - AF0404.04 Internal control
 - AF0404.05 Procedures
 - AF0405 Evaluation
 - AF0405.01 Corporate performance
 - AF0406 Strategic scanning
 - AF0407 Forecasting
 - AF0408 Budgeting
 - AF0409 Resource allocation
 - AF0410 Priority setting
 - AF0411 Environmental scanning
 - AF0412 Environmental analysis
- AF05 SUPERVISION CONCEPTS
- AF06 AUTHORITY
- AF07 MANAGEMENT LEVEL
 - AF0701 Strategic planning level
 - AF0702 Tactical level
 - UF Managerial control level
 - AF0703 Operational control level
- AF08 MANAGEMENT TECHNIQUES
 - AF0801 Delphi technique
 - AF0802 Brainstorming
- AF09 MANAGEMENT ROLES
- AF10 CHANGE MANAGEMENT

Keyword Classification Scheme

| | | | |
|-----------------------------|-------------------------------------|-----------------------------------|-----------------------------------|
| AF11 | OFFICE MANAGEMENT | AI0603 | Correlation analysis |
| AF12 | MANAGEMENT POLICIES | AI0604 | Regression analysis |
| AF13 | MANAGEMENT ISSUES | AI0605 | Discriminant analysis |
| AF1301 | Globalization | AI0606 | Factor analysis |
| AF1302 | Pricing | AI0607 | Cluster analysis |
| AF1302.01 | Transfer pricing | AI0608 | Conjoint analysis |
| AF1303 | Strategic alliances | AI0609 | Path analysis |
| AG LANGUAGE THEORIES | | AI0610 | Partial least squares |
| AG01 | LANGUAGE | AI0611 | LISREL |
| AG02 | LANGUAGE ACQUISITION | AI0612 | Non-parametric statistics |
| AG03 | LANGUAGE GENERATION | AI07 | RESEARCH MODELS |
| AG04 | LANGUAGE TRANSLATION | AI0701 | Causal models |
| AG0401 | Parsing | AI0702 | Contingency models |
| AH SYSTEMS THEORY | | AI0703 | UF Contingency theory |
| AH01 | SYSTEM | AI0703 | Structuration theory |
| AH02 | CYBERNETICS | AI08 | EPISTEMOLOGY |
| AH03 | INPUT/OUTPUT MODELS | AI0801 | Positivist perspective |
| AH04 | SYSTEMS EVOLUTION | AI0802 | Interpretivist perspective |
| AH0401 | Systems entropy | AI0803 | Critical perspective |
| AH05 | SYSTEMS APPROACH | AJ SOCIAL SCIENCE | |
| AH06 | TYPES OF SYSTEMS | AK MANAGEMENT SCIENCE | |
| AH0601 | Closed/open systems | AK01 | MODELS |
| AH0602 | Deterministic/probabilistic systems | AK0101 | Financial models |
| AH0603 | Human-machine systems | AK0102 | Planning models |
| AH0604 | Socio-technical systems | AK02 | OPTIMIZATION |
| AI RESEARCH | | AK0201 | Optimization methods |
| AI01 | RESEARCH METHODOLOGY | AK0202 | Heuristics |
| AI0101 | Action research | AK0203 | Linear programming |
| AI0102 | Case study | AK0204 | Goal programming |
| AI0103 | Comparative study | AK0205 | Mathematical programming |
| AI0104 | Empirical research | AK03 | STATISTICS |
| AI0105 | Experimental research | AK0301 | Statistical methods |
| AI0106 | Exploratory study | AK04 | SIMULATION |
| AI0107 | Conceptual study | AK05 | MANAGEMENT SCIENCE IMPLEMENTATION |
| AI0108 | Field study | UF OR/MS IMPLEMENTATION | |
| AI0109 | Protocol analysis | AL ARTIFICIAL INTELLIGENCE | |
| AI0110 | Laboratory study | AL01 | KNOWLEDGE REPRESENTATION |
| AI0111 | Literature review | AL0101 | Frames |
| AI0112 | Ethnography | AL0102 | Scripts |
| AI0113 | Longitudinal study | AL0103 | Predicate logic |
| AI0114 | Meta-analysis | AL0104 | Rule-based representation |
| AI0115 | Discourse analysis | AL0105 | Semantic networks |
| AI0116 | Hermeneutics | AL02 | NEURAL NETWORKS |
| AI0117 | Quasi-experimental study | AL03 | DEDUCTION AND REASONING |
| AI0118 | Secondary data analysis | AL0301 | Analogical reasoning |
| AI0119 | Citation analysis | AL0302 | Fuzzy reasoning |
| AI02 | RESEARCH FRAMEWORKS | AL0303 | Probabilistic reasoning |
| AI03 | RESEARCH ISSUES | AL0304 | Rule-based deduction |
| AI0301 | Research status | AL0305 | Answer/reason extraction |
| AI04 | MEASUREMENT | AL0306 | Approximate reasoning |
| AI0401 | Measures | AL0307 | Memory-based reasoning |
| UF Instruments | | AL04 | KNOWLEDGE ACQUISITION |
| UF Scales | | AM ECONOMIC THEORY | |
| AI0402 | Reliability | UF ECONOMICS | |
| AI0403 | Validity | AM01 | AGENCY THEORY |
| AI0403.01 | Construct validity | AM02 | TRANSACTION COST ECONOMICS |
| AI0403.02 | Content validity | AM0201 | Contract |
| AI0403.03 | Predictive validity | AN ERGONOMICS | |
| AI0403.04 | Convergent validity | AO POLITICAL SCIENCE | |
| AI0403.05 | Discriminant validity | USE POLITICAL ENVIRONMENT | |
| AI05 | DIFFUSION OF RESEARCH | AP PSYCHOLOGY | |
| AI0501 | Literature | | |
| AI06 | STATISTICAL METHODS | | |
| AI0601 | ANOVA | | |
| AI0602 | MANOVA | | |

B - EXTERNAL ENVIRONMENT

BA ECONOMIC ENVIRONMENT UF ECONOMY

- BA01 ECONOMIC IMPACTS
 - BA0101 Employment
- BA02 ECONOMIC SECTOR
 - BA0201 Construction industry
 - BA0202 Education
 - BA0203 Electronics industry
 - BA0204 Financial sector
 - BA0205 Manufacturing sector
 - BA0206 Mining industry
 - BA0207 Transportation industry
 - BA0208 Services
 - BA0209 Utilities
 - BA0210 Food industry
 - BA0211 Information industry
 - BA0212 Communications industry
 - BA0213 Banking industry
 - BA0214 Insurance industry
 - BA0215 Real estate industry
 - BA0216 Software industry
 - BA0217 Travel industry
- BA03 PUBLIC SECTOR
- BA04 PRIVATE SECTOR
- BA05 INTERNATIONAL BUSINESS

BB LEGAL ENVIRONMENT

- BB01 LEGAL ISSUES
 - BB0101 Software protection
 - BB0101.01 Software copyrights
 - BB0101.02 Patents
 - BB0101.03 Proprietary rights
 - BB0101.04 Trade secrets
 - BB0101.05 Software copyright infringements
 - BB0101.06 Licensing
 - BB0102 Individual rights
 - BB0103 Abuse and crime
 - BB0103.01 Piracy
 - BB0103.02 Fraud
- BB0104 Electronic fund transfer act

BC POLITICAL ENVIRONMENT UF POLITICAL SCIENCE

- BC01 GOVERNMENTS
 - BC0101 Federal government
 - BC0102 Local government
 - BC0103 State government
 - BC0104 Governmental issues
 - BC0104.01 Regulation
 - BC0104.02 Taxation
 - BC0104.03 Transborder data flows

BC02 POLITICS

BC03 PUBLIC POLICY

BD SOCIAL ENVIRONMENT UF SOCIAL SCIENCE

- BD01 SOCIAL ISSUES
 - BD0101 Computerization of society
 - UF Computers and society
 - UF Sociology of computing
 - BD0102 Changes in work force
 - BD0103 Remote work
 - BD0104 Ethics
 - BD0104.01 Ethical issues
 - BD0105 Privacy
 - BD0106 Discrimination
- BD02 SOCIAL ORGANIZATION
 - BD0201 Social support
- BD03 SOCIAL VALUES
- BD04 SOCIAL ENTITIES
 - BD0401 Homes
 - BD0402 Family
- BD05 CULTURAL DIFFERENCES
- BD06 COMPUTING IN DEVELOPING COUNTRIES

C - INFORMATION TECHNOLOGY

UF COMPUTER SCIENCE UF IS TECHNOLOGY UF TECHNOLOGY UF TECHNOLOGICAL ENVIRONMENT UF COMPUTER TECHNOLOGY

CA COMPUTER SYSTEMS

UF COMPUTERS UF HARDWARE

- CA01 DATA COMMUNICATIONS EQUIPMENT
- CA02 INPUT/OUTPUT DEVICES
 - CA0201 Voice recognition devices
 - CA0202 Video display terminal
 - CA0203 Interactive terminals
 - CA0204 Optical disk
 - CA0205 CD-ROM
 - CA0206 ATM
 - UF Automatic teller machine
 - CA0207 Pen
- CA03 MEMORY
- CA04 PROCESSORS
- CA05 STORAGE DEVICES
- CA06 WORK STATIONS
 - CA0601 Multifunctional work stations

CA07 COMPUTER SIZE

- CA0701 Supercomputers
- CA0702 Large-scale computers
- CA0703 Minicomputers
- CA0704 Microcomputers
 - UF Personal computers
 - UF Desktop computers

CA08 COMPUTER ORGANIZATION

- UF COMPUTER ARCHITECTURE
- UF COMPUTER STRUCTURE
- UF PROCESSOR ARCHITECTURE
- CA0801 Architecture types
 - CA0801.01 Array processors
 - CA0801.02 Von Neumann architecture
 - CA0801.03 Data flow architecture
 - CA0801.04 Pipeline architecture
- CA0802 Architectural features

CA09 DISTRIBUTED SYSTEMS

CA10 NETWORKS

- CA1001 LAN
 - UF Local area networks
- CA1002 Wide area networks
- CA1003 Network topology
- CA1004 Value added networks
- CA1005 Packet switching networks

Keyword Classification Scheme

| | |
|-----------------------------------------|------------------------------------|
| CA1006 Circuit switching networks | CB0602.03 Query languages |
| CA1007 Store-and-forward networks | UF Retrieval languages |
| CA1008 ISDN | CB0602.04 SQL |
| UF Integrated service digital network | UF Structured Query Language |
| CA11 TELECOMMUNICATIONS | CB0603 Data independence |
| CA1101 Telecommunications technology | CB0604 Data structure |
| CA12 FRONT-END COMPUTERS | CB0605 Data semantics |
| CA13 BACK-END COMPUTERS | CB0606 Distributed databases |
| CA14 MULTIMEDIA | CB0607 File management systems |
| CA15 CLIENT-SERVER | UF File systems |
| | CB0607.01 Logical file structure |
| | CB0608 Object-oriented DBMS |
| CB SOFTWARE | CB07 HIGH LEVEL LANGUAGES |
| CB01 MICROPROGRAMMING | UF PROCEDURAL LANGUAGES |
| CB02 MACHINE LANGUAGES | UF PROGRAMMING LANGUAGES |
| CB03 ASSEMBLY LANGUAGES | UF 3RD GENERATION LANGUAGES |
| CB04 OPERATING SYSTEMS | CB0701 Language constructs |
| CB0401 Operating system characteristics | CB0701.01 Abstract data type |
| CB0401.01 Interactive operating systems | CB0701.02 Logic programming |
| CB0401.02 Online operating systems | CB0701.03 Predicate calculus |
| CB0401.03 Timesharing operating systems | CB0702 Language categories |
| CB0401.04 Multiprocessing systems | CB0702.01 COBOL |
| CB0401.05 Parallel processing systems | CB0702.02 FORTRAN |
| CB0401.06 Virtual memory | CB0702.03 C |
| CB0402 Operating system products | CB0702.04 BASIC |
| CB0402.01 Multics | CB0702.05 Pascal |
| CB0402.02 UNIX | CB0702.06 ADA |
| CB0402.03 VM | CB0702.07 LISP |
| CB0402.04 DOS | CB0702.08 PROLOG |
| CB0403 Access methods | CB08 VERY HIGH LEVEL LANGUAGES |
| CB05 COMPILERS | UF 4TH GENERATION LANGUAGES |
| CB06 DBMS | UF 5TH GENERATION LANGUAGES |
| UF DATABASE MANAGEMENT SYSTEMS | UF NONPROCEDURAL LANGUAGES |
| UF DATABASE DESIGN | CB09 SOFTWARE PACKAGES |
| CB0601 Data models | CB0901 Data processing software |
| UF Database models | CB0901.01 Dialog generators |
| UF Data organization | CB0901.02 DSS generators |
| UF Data schema | CB0901.03 Modeling languages |
| UF Database schema | CB0901.04 Program generators |
| UF Data architecture | CB0901.05 Report generators |
| UF External schema | UF Report writers |
| UF External view | CB0901.06 Statistical packages |
| CB0601.01 Relational model | CB0901.07 Electronic spreadsheets |
| UF Relational data structure | CB0902 Text processing software |
| UF Relational database | UF Word processing software |
| CB0601.0101 Relational algebra | UF Text editing software |
| CB0601.02 Network model | CB0902.01 Hypertext |
| CB0601.03 Hierarchical model | CB0903 Knowledge-based software |
| CB0601.04 Semantic data model | CB0904 Communications software |
| CB0601.05 Entity-relationship model | CB10 NATURAL LANGUAGES |
| CB0602 Database languages | CB1001 Natural language processors |
| CB0602.01 DDL | CB11 SPECIAL PURPOSE LANGUAGES |
| UF Data description languages | CB12 SOFTWARE ARCHITECTURE |
| UF Data definition languages | CB13 ALGORITHMS |
| CB0602.02 DML | |
| UF Data manipulation languages | |

D - ORGANIZATIONAL ENVIRONMENT

| | |
|------------------------------------------|------------------------------------------------|
| UF ORGANIZATIONAL CONTEXT | DA03 ORGANIZATIONAL STRUCTURE |
| UF ORGANIZATIONAL THEORY | DA0301 Hierarchy of authority |
| UF ORGANIZATIONS | DA0302 Formalization |
| UF OFFICE ENVIRONMENT | DA0303 Centralized/decentralized organizations |
| UF WORKING ENVIRONMENT | DA0304 Matrix organization |
| DA ORGANIZATIONAL CHARACTERISTICS | DA04 ORGANIZATIONAL MATURITY |
| UF ORGANIZATIONAL FACTORS | DA05 ORGANIZATIONAL STRESS |
| DA01 ORGANIZATIONAL CULTURE | DA06 ORGANIZATIONAL EFFECTIVENESS |
| DA0101 Psychological climate | DA07 ORGANIZATIONAL EFFICIENCY |
| DA0102 IS culture | DA08 ORGANIZATIONAL STRATEGIES |
| UF Computing culture | DA09 ORGANIZATIONAL PROCEDURES |
| DA0103 Computing milieux | DA0901 Office procedures |
| DA02 ORGANIZATIONAL SIZE | DA10 ORGANIZATIONAL VALUE CHAIN |
| DA0201 Small business | DA1001 Information intensity |
| DA0202 Large business | |
| DA0203 Multinational corporations | |

DB ORGANIZATIONAL FUNCTIONS
UF ORGANIZATIONAL DEPARTMENTS

- DB01 GENERAL MANAGEMENT
UF STRATEGY AND POLICY
- DB02 ACCOUNTING
- DB03 FINANCE
- DB04 HUMAN RESOURCES
UF PERSONNEL
- DB05 IS
UF INFORMATION SYSTEMS
UF DP
UF MIS
UF INFORMATION RESOURCE
UF CORPORATE COMPUTING FACILITY
UF EDP
UF ADMINISTRATIVE DATA PROCESSING
UF BUSINESS DATA PROCESSING
- DB06 MARKETING
- DB07 PRODUCTION
UF OPERATIONS MANAGEMENT
- DB08 RESEARCH AND DEVELOPMENT
- DB09 AUDITING

DC TASK CHARACTERISTICS
UF JOB CHARACTERISTICS

- DC01 TASK AMBIGUITY
- DC02 TASK COMPLEXITY
- DC03 TASK UNCERTAINTY
- DC04 TASK STRUCTURE

- DC05 TASK PROGRAMMABILITY
- DC06 TASK INTERDEPENDENCE
- DC07 TASK LEVEL
DC0701 Managerial tasks
DC0702 Clerical tasks
- DC08 BOUNDARY SPANNING
- DC09 TASK EQUIVOCALITY

DD ORGANIZATIONAL DYNAMICS

- DD01 ORGANIZATIONAL CHANGE
DD0101 Organizational growth
- DD02 ORGANIZATIONAL COMMUNICATION
- DD03 POWER IN ORGANIZATIONS
DD0301 Political perspective
DD0302 Rational perspective
- DD04 ORGANIZATIONAL DESIGN
UF ORGANIZATIONAL DEVELOPMENT
DD0401 Job design
UF Work design
UF Organization of work
DD0402 Business process re-engineering
UF Business process redesign
UF Business process transformation
UF Process innovation
- DD05 INNOVATION
DD0501 Technological innovation
DD0502 Diffusion of innovation
- DD06 ORGANIZATIONAL LEARNING
- DD07 INFORMATION FLOWS

E - IS MANAGEMENT

- UF MANAGING MIS
- UF MIS MANAGEMENT
- UF MANAGING COMPUTING
- UF DP MANAGEMENT
- UF MANAGEMENT OF COMPUTING AND IS
- UF INFORMATION RESOURCE MANAGEMENT
- UF MANAGEMENT OF INFORMATION RESOURCE
- UF INFORMATION MANAGEMENT
- UF ADMINISTRATION OF IS
- UF SYSTEM MANAGEMENT

EA DATA RESOURCE MANAGEMENT
UF DATA ADMINISTRATION
UF MANAGING DATA RESOURCE
UF DATA MANAGEMENT
UF DATABASE MANAGEMENT
UF DATABASE ADMINISTRATION

EB PERSONNEL RESOURCE MANAGEMENT
UF HUMAN RESOURCE MANAGEMENT
USE IS STAFFING

EC HARDWARE RESOURCE MANAGEMENT
UF COMPUTER MANAGEMENT

- EC01 HARDWARE SELECTION
UF COMPUTER SELECTION
UF HARDWARE ACQUISITION
EC0101 Hardware selection criteria
- EC02 HARDWARE EVALUATION
- EC03 HARDWARE MAINTENANCE
- EC04 HARDWARE CONTRACTS

ED SOFTWARE RESOURCE MANAGEMENT
UF SOFTWARE MANAGEMENT

- ED01 SOFTWARE SELECTION
ED0101 Software selection criteria
- ED02 SOFTWARE EVALUATION
- ED03 SOFTWARE CONTRACTS

EE IS PROJECT MANAGEMENT
UF SYSTEMS LIFE CYCLE MANAGEMENT

- EE01 IS PROJECT MANAGEMENT METHODS AND TOOLS
EE0101 IS project risk management
- EE02 IS PROJECT TEAMS
UF IS TEAMS
EE0201 Interdisciplinary teams
EE0202 Chief programmer teams
- EE03 IS PROJECT DEVELOPMENT POLICIES
- EE04 IS PROJECT DEVELOPMENT PRIORITIES
- EE05 IS PROJECT PLANNING
EE0501 Effort estimation
EE0502 Time estimation
EE0503 Cost estimation
EE0504 Risk assessment
- EE06 IS PROJECT CONTROL

EF IS PLANNING

- EF01 IS PLANNING METHODS
UF IS PLANNING METHODOLOGIES
EF0101 Structured planning
EF0102 CSF
UF Critical success factors
EF0103 BSP
UF Business systems planning
EF0104 CAP
UF Computer-assisted planning
EF0105 BIAIT
EF0106 Enterprise modeling
EF0107 Information engineering
- EF02 IS PLANNING ISSUES
EF0201 Alignment of IS plans with business plans
- EF03 IS PLANNING OBJECTIVES
- EF04 IS STRATEGIC PLANNING
- EF05 IS OPERATIONAL PLANNING
EF0501 Capacity planning

Keyword Classification Scheme

| | | | |
|-----------|---------------------------------------------|-------------|---------------------------------------|
| EF06 | IS PROJECT SELECTION | EI0103 | Utility function evaluation |
| | UF APPLICATION SELECTION | EI0104 | Multiple criteria evaluation |
| | UF SYSTEM SELECTION | | UF Multi-attribute evaluation |
| EF0601 | IS project selection criteria | EI0105 | Benchmarking |
| | UF Application selection criteria | | EI0105.01 Synthetic programs |
| EF0602 | Application portfolio | EI0106 | Cost benefit analysis |
| | | | UF Cost estimation |
| EF07 | IS INVESTMENT | | UF Time and cost estimation |
| EF08 | IS POLICY | EI0107 | Information evaluation |
| | UF INFORMATION POLICY | EI0108 | Quality control |
| EF09 | IS ARCHITECTURE | EI0109 | Value analysis |
| | UF SYSTEM ARCHITECTURE | EI0110 | Workload modeling |
| | UF INFORMATION ARCHITECTURE | EI0111 | Software metrics |
| | | EI0112 | Function point analysis |
| EG | ORGANIZING IS | | |
| | UF INFORMATION INFRASTRUCTURE | | |
| | UF INFORMATION SERVICES ORGANIZATION | EI02 | EVALUATION CRITERIA |
| EG01 | IS CENTRALIZATION/DECENTRALIZATION | EI0201 | Effectiveness |
| | EG0101 IS centralization | | UF System effectiveness |
| | EG0102 IS decentralization | EI0202 | Efficiency |
| | EG0103 DDP | | UF System efficiency |
| | UF Distributed data processing | EI0203 | User friendliness |
| | UF Distributed information systems | | UF User orientation |
| | UF Distributed processing | EI0204 | IS performance |
| | | | UF EDP performance |
| EG02 | STRUCTURE OF THE IS FUNCTION | | UF Performance incentives |
| | EG0201 Database administration | EI0205 | Productivity |
| | UF Database management | | EI0205.01 Programmer productivity |
| | EG0202 Steering committees | | EI0205.02 Managerial productivity |
| | UF Executive steering committee | | EI0205.03 Office productivity |
| | EG0203 Information centers | | EI0205.04 Organizational productivity |
| | EG0204 Help desks | | EI0205.05 Group performance |
| EG03 | ISSUES IN ORGANIZING IS | EI0206 | Quality |
| | | | EI0206.01 System quality |
| | | | UF Software quality |
| | | | EI0206.02 Information quality |
| | | | USE Information attributes |
| | | | EI0206.03 Service quality |
| EH | IS STAFFING | EI0207 | User satisfaction |
| EH01 | IS JOB CATEGORIES | | UF User information satisfaction |
| | UF IS OCCUPATIONS | EI0208 | IS Utilization |
| | UF DP PROFESSIONALS | | UF IS Use |
| | UF IS PERSONNEL | | UF System use |
| EH0101 | Chief information officer | | UF Computer use |
| | UF IS manager/director/executive | | UF Information utilization |
| | UF MIS manager/director/executive | EI0209 | IS Reliability |
| | UF DP manager/director/executive | | UF Software reliability |
| EH0102 | Systems development manager | EI0210 | IS flexibility |
| EH0103 | IS operations manager | EI0211 | IS impacts |
| EH0104 | Database administrator | | EI0211.01 Organizational impacts |
| EH0105 | Data administrator | | EI0211.02 Social impacts |
| EH0106 | Systems analyst | EI0212 | Size of backlog |
| | UF Information analyst | EI0213 | Cost |
| EH0107 | Programmer | EI0214 | Computer performance |
| | UF Applications programmer | | EI0214.01 Response time |
| EH0108 | Data preparation personnel | | UF Turnaround time |
| EH0109 | Computer operator | EI0215 | Ease of learning |
| EH0110 | Systems designer | EI0216 | Information overload |
| EH0111 | IS project manager | EI0217 | System errors |
| EH0112 | Systems architect | | EI0217.01 Program correctness |
| EH0113 | IS auditor | EI0218 | IS development time |
| | UF EDP auditor | | UF Software development time |
| EH0114 | IS operations personnel | EI0219 | Semantic integrity |
| EH0115 | Knowledge engineer | EI0220 | IS development effort |
| EH0116 | Software engineer | | UF Software development effort |
| EH02 | IS STAFFING ISSUES | EI0221 | Risk |
| | EH0201 IS training and development | EI0222 | Complexity |
| | EH0202 IS turnover | EI0223 | Accessibility |
| | EH0203 IS absenteeism | EI0224 | Sophistication |
| | EH0204 IS job satisfaction | EI0225 | Strategic impact |
| | EH0205 IS career path | EI0226 | System acceptance |
| | EH0206 IS recruiting | | |
| | EH0207 IS staff performance evaluation | | |
| | EH0208 IS skill requirements | | |
| | EH0209 Systems manager activities | | |
| | EH0210 IS professional values | | |
| EI | IS EVALUATION | EJ | IS CONTROL |
| | UF IS MANAGEMENT AUDIT | EJ01 | IS CONTROL METHODS AND TOOLS |
| | UF IS PERFORMANCE ASSESSMENT | EJ0101 | Budgets |
| | UF IS PERFORMANCE EVALUATION | EJ0102 | Chargeback |
| | UF MANAGEMENT ASSESSMENT OF IS | | UF Chargeout |
| | UF SOFTWARE EVALUATION | | UF Chargeback systems |
| | UF SYSTEM EVALUATION | EJ0103 | Costing of computer services |
| EI01 | EVALUATION METHODS | EJ0104 | Priority setting |
| | EI0101 Pragmatic assessment | EJ0105 | EDP audit |
| | EI0102 Theoretical evaluation | | UF Computer auditing |
| | | | UF Internal auditing |

EJ0105.01 EDP audit tools and techniques
 EJ0105.0101 Online auditing
 EJ0105.0102 Audit interfaces
 EJ0105.0103 Audit command languages
 EJ0105.0104 Computer assisted auditing

 EJ02 IS CONTROL ISSUES
 EJ0201 Software auditability
 EJ0202 IS cost control

EK IS SECURITY

 EK01 DATA SECURITY
 UF Data protection

 EK02 DATA ENCRYPTION
 EK0201 Public key encryption

 EK03 ACCESS CONTROL

 EK04 PHYSICAL SECURITY

 EK05 AUTHENTICATION

 EK06 AUTHORIZATION

 EK07 PASSWORDS

 EK08 DISASTER PLANS
 EK0801 Recovery

EK09 COMPUTER CRIME
 EK10 COMPUTER VIRUSES

EL IS MANAGEMENT ISSUES

 EL01 MARKETING OF MIS

 EL02 IS PROBLEMS
 EL0201 IS project abandonment
 EL0202 IS project failures

 EL03 IS SUCCESS
 EL0301 Defining IS success
 EL0302 Measuring IS success

 EL04 IS EVOLUTION
 EL0401 IS maturity
 EL0402 Stage theory
 UF Nolan stage theory

 EL05 IS TECHNOLOGY TRANSFER
 UF INFORMATION TECHNOLOGY ADOPTION

 EL06 IS INTEGRATION

 EL07 OUTSOURCING OF IS

 EL08 IS RISK MANAGEMENT

 EL09 GLOBALIZATION OF IS

 EL10 IS DOWNSIZING

F - IS DEVELOPMENT AND OPERATIONS

UF IS DEVELOPMENT
UF MIS DEVELOPMENT
UF SYSTEMS DEVELOPMENT
UF APPLICATIONS DEVELOPMENT
UF EDP PROJECT DEVELOPMENT
UF SOFTWARE DEVELOPMENT
UF SOFTWARE ENGINEERING
UF SYSTEMS ANALYSIS AND DESIGN

FA IS DEVELOPMENT STRATEGIES
UF IS DEVELOPMENT METHODOLOGIES
UF IS DEVELOPMENT APPROACHES
UF IS IMPLEMENTATION APPROACHES

 FA01 TRADITIONAL DEVELOPMENT APPROACH

 FA02 PROTOTYPING

 FA03 ITERATIVE DESIGN

 FA04 EVOLUTIVE DESIGN
 UF EVOLUTIONARY DESIGN
 UF HEURISTIC DEVELOPMENT

 FA05 USER DEVELOPMENT
 UF USER-DEVELOPED SYSTEMS
 UF USER-DEVELOPED APPLICATIONS

 FA06 PARTICIPATIVE DESIGN

 FA07 AUTOMATED IS DEVELOPMENT

 FA08 CLIENT-CENTERED DESIGN
 UF USER-ORIENTED DESIGN
 UF USER-CENTERED DESIGN

 FA09 USER-LED DESIGN

 FA10 SOCIO-TECHNICAL APPROACH
 UF SOCIO-TECHNICAL DESIGN

 FA11 OBJECT-ORIENTED APPROACH

 FA12 REVERSE ENGINEERING

FB IS LIFE CYCLE ACTIVITIES
UF DEVELOPMENT PROCESS LIFE CYCLE
UF SYSTEM LIFE CYCLE
UF SYSTEMS DEVELOPMENT PROCESS
UF IS LIFE CYCLE
UF SYSTEM DEVELOPMENT LIFE CYCLE

 FB01 PROPOSAL DEFINITION
 FB0101 Development objectives

 FB02 FEASIBILITY ASSESSMENT

FB03 INFORMATION REQUIREMENTS DETERMINATION
 UF SYSTEMS ANALYSIS
 UF USER NEEDS ASSESSMENT
 UF INFORMATION ANALYSIS
 UF REQUIREMENTS SPECIFICATION
 UF REQUIREMENTS DEFINITION
 UF INFORMATION REQUIREMENTS ANALYSIS
 UF IRA
 UF DETAILED STUDY
 UF REQUIREMENTS ANALYSIS
 FB0301 Information requirements determination activities
 FB0301.01 Database requirements analysis
 FB0301.02 User interface requirements analysis
 FB0302 Information requirements determination issues

 FB04 IS DESIGN
 UF LOGICAL DESIGN
 UF SYSTEM DESIGN
 UF CONCEPTUAL DESIGN
 UF MIS DESIGN
 UF MIS DESIGN PROCESS
 UF IS PHYSICAL DESIGN
 FB0401 Database design
 UF Database conceptual design
 UF Database physical design
 UF Database logical design
 FB0401.01 Data abstraction
 FB0401.02 Data modeling
 FB0401.03 Normalization
 FB0401.04 Normal form
 FB0401.05 View modeling
 FB0402 Process design
 FB0402.01 Functional design
 FB0402.02 Structured design
 FB0402.03 Algorithm design
 FB0402.04 Query design
 FB0402.05 Software design
 UF Program design
 FB0402.06 Procedure design
 FB0403 Interface design
 FB0403.01 Screen design
 FB0403.02 Output design
 FB0403.03 Report design
 FB0403.04 Dialog design
 FB0404 Communication network design
 FB0405 Knowledge-base design
 FB0406 IS design issues

Keyword Classification Scheme

- FB05 PROGRAMMING
 - FB0501 Program generation
 - UF Automatic program generation
 - UF Automatic programming
 - FB0502 Programming issues
 - UF Coding issues
 - FB0502.01 Program comprehension
 - FB0502.02 Programming style
 - FB0502.03 Psychology of programming
 - FB0503 Programming methodology
 - FB0503.01 Algorithm design
 - FB0503.02 Modular programming
 - FB0503.03 Interactive programming
 - FB0503.04 Structured programming
 - FB0503.05 Top-down programming
 - FB0503.06 Object-oriented programming
 - FB0504 Programmer workbench
 - FB0505 Programming environment
- FB06 TESTING
 - FB0601 Testing activities
 - FB0601.01 System testing
 - FB0601.02 Unit testing
 - FB0601.03 Program testing
 - FB0601.04 Debugging
 - FB0602 Testing issues
 - FB0603 Code inspection
 - FB0604 Code walkthrough
- FB07 CONVERSION
- FB08 MAINTENANCE
 - UF SYSTEMS MAINTENANCE
 - UF IS MAINTENANCE
 - UF SOFTWARE MAINTENANCE
 - FB0801 Program maintenance
- FB09 POST AUDIT
 - UF POST-IMPLEMENTATION AUDIT
- FB10 SYSTEM DOCUMENTATION
 - FB1001 User manual
 - UF User documentation
 - FB1002 Program documentation
- FC IS DEVELOPMENT METHODS AND TOOLS**
 - UF SYSTEMS ANALYSIS METHODS**
 - UF INFORMATION ANALYSIS TECHNIQUES**
 - UF SYSTEMS DEVELOPMENT TECHNIQUES**
 - UF SOFTWARE DEVELOPMENT TOOLS**
 - UF ANALYSIS TECHNIQUES**
 - UF DESIGN STRATEGIES**
 - UF DESIGN METHODOLOGIES**
 - UF SOFTWARE DEVELOPMENT METHODOLOGIES**
- FC01 ACTIVITY DESCRIPTION CHARTS
- FC02 BOTTOM-UP DESIGN
- FC03 COGNITIVE MAPPING
- FC04 CASE
 - UF COMPUTER-ASSISTED SOFTWARE ENGINEERING
- FC05 DATA DICTIONARY
 - UF DATA DIRECTORY
- FC06 DFD
 - UF DATA FLOW DIAGRAMS
- FC07 DECISION AND ACTIVITY ANALYSIS
- FC08 DECISION TABLES
- FC09 DECISION TREES
- FC10 ENTITY DIAGRAMS
- FC11 EXECUTIVE APPLICATION SURVEY
- FC12 FLOWCHARTS
- FC13 FUNCTIONAL DECOMPOSITION
- FC14 HIPO
 - UF HIERARCHY INPUT PROCESS OUTPUT
- FC15 IS MODELS
- FC16 INTERVIEWING
- FC17 MIDDLE-OUT DESIGN
- FC18 OBSERVATION
- FC19 STRUCTURAL MODELLING
- FC20 STRUCTURED ANALYSIS
- FC21 STRUCTURED ENGLISH
 - UF PSEUDO-CODE
- FC22 STRUCTURED TOOLS
 - UF STRUCTURED TECHNIQUES
- FC23 SYNTAX METHOD
- FC24 TOP-DOWN DESIGN
- FC25 TRADITIONAL ANALYSIS
- FC26 WARNIER/ORR CHARTS
- FC27 WORK BREAKDOWN STRUCTURE
- FC28 OBJECT-ORIENTED ANALYSIS
- FC29 OBJECT-ORIENTED DESIGN
- FD IS IMPLEMENTATION**
 - UF COMPUTER SYSTEMS IMPLEMENTATION**
 - UF MIS IMPLEMENTATION**
 - UF SYSTEMS IMPLEMENTATION**
- FD01 USER-ANALYST DIFFERENCES
- FD02 USER INVOLVEMENT
- FD03 USER PARTICIPATION
- FD04 SENIOR MANAGEMENT SUPPORT
- FD05 IS IMPLEMENTATION APPROACHES
 - USE IS DEVELOPMENT STRATEGIES
- FD06 USER TRAINING
 - UF PERSONNEL TRAINING
 - UF USER EDUCATION
- FD07 IMPLEMENTATION POLITICS
- FD08 USER-ANALYST INTERACTION
 - UF USER-ANALYST INTERFACE
 - UF IMPLEMENTOR-USER RELATIONSHIP
 - UF USER-EDP-SPECIALIST INTERACTION
 - UF CLIENT-CONSULTANT RELATIONSHIP
 - FD0801 Body language
 - FD0802 Communication gap
- FE IS OPERATIONS**
 - FE01 IS OPERATIONS ACTIVITIES**
 - FE0101 Input operations
 - FE0101.01 Data preparation
 - FE0101.02 Data entry
 - FE0101.03 Data validation
 - FE0101.04 Data collection
 - FE0102 Data processing
 - FE0102.01 File updating
 - FE0102.02 File maintenance
 - FE0102.03 Record keeping
 - FE0103 Data protection
 - USE Data security
 - FE0104 Output operations
 - FE0105 Database operation
 - FE0105.01 Storage
 - FE0105.02 Retrieval
 - FE02 COMPUTER SYSTEMS INSTALLATION**

G - IS USAGE

UF COMPUTER USAGE UF COMPUTER UTILIZATION

GA ORGANIZATIONAL USE OF IS

- GA01 COMPETITIVE USE OF IS
 - GA0101 Strategic IS
 - GA0102 Competitive IS
- GA02 OFFICE AUTOMATION
 - GA0201 Word processing
 - GA0202 Satellite work center
- GA03 END-USER COMPUTING
 - UF PERSONAL COMPUTING
 - UF PERSONAL USE
 - GA0301 End-user programming
- GA04 OPERATIONAL COMPUTING
- GA05 TELECOMMUTING
 - UF HOME COMPUTING
 - GA0501 Distributed work arrangements

GB USERS

- GB01 USER CHARACTERISTICS
 - USE INDIVIDUAL CHARACTERISTICS
- GB02 USER ATTITUDES
- GB03 USER BEHAVIOR
- GB04 USER TYPES
 - GB0401 Direct users
 - GB0402 Indirect users
 - GB0403 Intermediate users
 - GB0404 End users
 - GB0405 Expert users
 - GB0406 Novice users
- GB05 USER REQUIREMENTS
 - UF MANAGEMENT INFORMATION NEEDS
 - UF USER NEEDS

GB06 EXECUTIVE REQUIREMENTS FOR DECISION SUPPORT

GB07 USER EXPECTATIONS

GB08 USER JOB TITLES

- GB0801 CEO
 - UF Chief executive officer
- GB0802 Executive
- GB0803 Middle manager
- GB0804 Senior management
 - UF Top management
- GB0805 Entry-level personnel

GC TYPE OF IS SUPPORT

- GC01 CORPORATE SUPPORT
- GC02 DEPARTMENTAL SUPPORT
- GC03 PERSONAL SUPPORT
 - UF PERSONAL IS
- GC04 USER SUPPORT
- GC05 INTERPERSONAL SUPPORT
- GC06 MANAGEMENT SUPPORT

GD TYPE OF IS ACCESS

- GD01 DIRECT ACCESS
- GD02 CHAUFFEURED ACCESS

GE TYPE OF PROCESSING

- GE01 ONLINE IS
- GE02 BATCH IS
- GE03 REAL-TIME IS
- GE04 INTERACTIVE IS

H - INFORMATION SYSTEMS

HA TYPES OF INFORMATION SYSTEMS

- HA01 TRANSACTION PROCESSING SYSTEMS
 - UF OPERATIONAL SUPPORT SYSTEMS
- HA02 MIS
 - UF MANAGEMENT INFORMATION SYSTEMS
- HA03 DSS
 - UF DECISION SUPPORT SYSTEMS
 - HA0301 Group DSS
 - HA0302 Distributed decision-making systems
 - HA0303 DSS architecture
- HA04 EXPERT SYSTEMS
 - UF KNOWLEDGE-BASED SYSTEMS
- HA05 EXECUTIVE SUPPORT SYSTEMS
 - UF EXECUTIVE INTELLIGENCE SYSTEMS
 - UF MANAGEMENT SUPPORT SYSTEMS
- HA06 OFFICE SYSTEMS
- HA07 INTER-ORGANIZATIONAL SYSTEMS
 - HA0701 EFT
 - UF Electronic fund transfer
 - HA0702 Electronic markets
- HA08 CBCS
 - UF COMPUTER-BASED COMMUNICATION SYSTEMS
 - UF COMMUNICATION SYSTEMS
 - HA0801 Electronic mail
 - HA0802 Computer conferencing
 - HA0803 Facsimile transmission
 - HA0804 Videotex
 - HA0805 Teletext
 - HA0806 Voice/data sharing
 - HA0807 Message systems

HA0808 Audio conference

HA0809 Voice messaging

HA09 INFORMATION STORAGE AND RETRIEVAL SYSTEMS

- HA0901 Information retrieval
- HA0902 Information search and retrieval
- HA0903 Commercial databases
 - UF External databases

HA10 DOCUMENT MANAGEMENT SYSTEMS

- UF RECORDS MANAGEMENT SYSTEMS
- UF FILING SYSTEMS
- HA1001 Document retrieval systems

HA11 ELECTRONIC MEETING SYSTEMS

- UF EMS
- HA1101 Electronic meetings

HA12 COLLABORATIVE WORK SYSTEMS

- HA1201 Collaborative writing
- HA1202 Document sharing

HA13 MODEL MANAGEMENT SYSTEMS

HA14 IMAGE SYSTEMS

HA15 AUTHORING SYSTEMS

HB IS APPLICATION AREAS

- UF COMPUTER APPLICATIONS
- UF APPLICATIONS SOFTWARE
- UF BUSINESS APPLICATIONS
- UF APPLICATIONS PROGRAMS

HB01 ACADEMIC ADMINISTRATION IS

HB02 ACCOUNTING IS

Keyword Classification Scheme

HB03 AGRIBUSINESS IS
 HB04 AUDIT SOFTWARE
 HB05 BANKING IS
 HB06 CAD/CAM
 UF COMPUTER-AIDED DESIGN/COMPUTER-AIDED
 MANUFACTURING
 HB07 COMPUTER-ASSISTED TRAINING SYSTEMS
 HB08 EDUCATIONAL IS
 UF EDUCATIONAL TECHNOLOGY
 HB09 ENERGY IS
 HB10 FEDERAL IS
 HB11 FINANCIAL IS
 HB1101 Cash management system
 HB12 FINANCIAL PLANNING IS
 HB13 FISCAL IS
 HB14 GOVERNMENTAL IS
 HB15 HEALTH IS
 HB16 HUMAN RESOURCE IS
 UF PERSONNEL IS
 HB17 LEGAL IS
 HB18 MANUFACTURING IS
 USE PRODUCTION IS
 HB19 MARKETING IS
 HB20 MEDICAL IS
 HB21 MILITARY IS
 HB22 ORDER-PROCESSING IS
 HB23 PRICING IS
 HB24 PRODUCTION IS
 UF MANUFACTURING IS
 UF INVENTORY/PRODUCTION SYSTEMS
 HB25 PRODUCTION PLANNING IS
 HB26 SIMULATION AND MODELLING IS
 HB27 STRATEGIC INTELLIGENCE IS
 HB28 SUPERVISORY IS
 HB29 URBAN IS
 HB30 WORD PROCESSING APPLICATIONS
 HB31 GLOBAL IS
 HB32 AIRLINE RESERVATION SYSTEMS

HC COMPONENTS OF IS

HC01 INTERFACE
 UF USER INTERFACE
 HC0101 User/machine dialog
 UF Human/computer interaction
 UF Person/machine interaction
 HC0102 Command language
 HC0103 Database views
 HC0104 Direct manipulation
 HC02 DATABASE
 HC0201 Data
 HC0202 Files
 HC0202.01 Sequential files
 HC0203 Data classes
 HC03 PROGRAMS
 HC04 INPUT
 HC05 OUTPUT
 HC0501 Exception report
 HC06 INFORMATION RESOURCE
 HC07 KNOWLEDGE BASE
 HC08 MODULES

HD IS CHARACTERISTICS UF IS FEATURES

HD01 INTERFACE CHARACTERISTICS
 UF INFORMATION PRESENTATION
 UF INTERFACE REQUIREMENTS
 HD0101 Graphics
 UF Computer graphics
 HD0101.01 Business charts
 HD0101.02 Graphic design
 HD0101.03 3-D graphics
 HD0102 Tables
 HD0103 Icons
 HD0104 Color
 HD0105 Menus
 HD0106 Error messages
 HD0107 Prompts
 HD0108 Graphical user interface
 HD0109 Natural language interface
 HD0110 Interactive interface
 HD02 DATABASE CHARACTERISTICS
 UF DATABASE REQUIREMENTS
 HD03 IS STRUCTURE
 HD0401 Formal/informal IS

I - IS EDUCATION AND RESEARCH

IA IS EDUCATION

IA01 IS CURRICULUM
 IA02 COMPUTER LITERACY
 IA03 COMPUTER SCIENCE EDUCATION
 IA04 CERTIFICATION

IB IS RESEARCH

IB01 IS RESEARCH METHODOLOGIES
 IB02 IS RESEARCH FRAMEWORKS
 IB03 IS RESEARCH ISSUES
 IB0301 Diffusion of IS research
 IB0301.01 IS literature
 IB04 IS RESEARCH AGENDA
 IB05 IS RESEARCH CENTERS
 IB06 IS JOURNALS

IC IS PROFESSIONAL SOCIETIES

IC01 SIM
 UF SOCIETY FOR INFORMATION MANAGEMENT
 IC0101 SIM services
 IC0102 SIM issues
 IC02 CODASYL
 IC0201 Database task group

IC03 ANSI
 IC0301 ANSI/SPARC

IC04 ACM
 UF ASSOCIATION FOR COMPUTING MACHINERY

IC05 IFIP
 UF INTERNATIONAL FEDERATION FOR INFORMATION
 PROCESSING

IC06 ISO
 UF INTERNATIONAL ORGANIZATION FOR
 STANDARDIZATION

IC07 DPMA
 UF DATA PROCESSING MANAGEMENT ASSOCIATION

IC08 ICCP
 UF INSTITUTE FOR CERTIFICATION OF COMPUTER
 PROFESSIONALS

ID HISTORY OF IS

ID01 HISTORY OF COMPUTING
 ID02 OFFICE OF THE FUTURE
 ID03 FUTURE INFORMATION PROFESSIONAL
 ID04 TECHNOLOGY TRENDS
 ID05 FUTURE OF IS

About the Authors

Henri Barki is associate professor of information systems at the École des Hautes Études Commerciales in Montréal. He received his Ph.D. in information systems from the School of Business Administration, University of Western Ontario. His research interests center on the management of software development projects and include the study of user participation, user involvement, and conflicts. His papers have been published in *MIS Quarterly*, *Information & Management*, *Canadian Journal of Administrative Sciences*, and *INFOR*.

Suzanne Rivard is professor of information systems at the École des Hautes Études Commerciales in Montréal. She holds an MBA from

École des Hautes Études Commerciales and a Ph.D. in MIS from the University of Western Ontario. Her main research interests include the management of software development projects, end-user computing, and impacts of information technologies. She has published articles in a variety of journals, including *MIS Quarterly*, *Communications of the ACM*, *Information & Management*, *Interfaces*, and *INFOR*.

Jean Talbot is assistant professor of information systems at the École des Hautes Études Commerciales in Montréal. He received his doctorate in information systems from the Université Montpellier II in France. His current research interests are in the area of system development management.

Appendix A

New Keywords

| | |
|-----------------------------|-----------|
| Cognitive dissonance theory | AA0101 |
| Theory of reasoned action | AA0102 |
| Attribution theory | AA0501 |
| Equity theory | AA0502 |
| Anonymity | AA0901 |
| Facilitation | AA0902 |
| Resistance to change | AA1102 |
| Problem representation | AC0305 |
| Decision-making style | AC0501 |
| Information richness | AD0518 |
| TQM | AF0101 |
| UF Total quality management | |
| Corporate performance | AF0405.01 |
| Environmental scanning | AF0411 |
| Environmental analysis | AF0412 |
| Brainstorming | AF0802 |
| MANAGEMENT ISSUES | AF13 |
| Globalization | AF1301 |
| Pricing | AF1302 |
| Transfer pricing | AF1302.01 |

Keyword Classification Scheme

| | |
|----------------------------|-----------|
| Strategic alliances | AF1303 |
| Ethnography | AI0112 |
| Longitudinal study | AI0113 |
| Meta-analysis | AI0114 |
| Discourse analysis | AI0115 |
| Hermeneutics | AI0116 |
| Quasi-experimental study | AI0117 |
| Secondary data analysis | AI0118 |
| Construct validity | AI0403.01 |
| Content validity | AI0403.02 |
| Predictive validity | AI0403.03 |
| Convergent validity | AI0403.04 |
| Discriminant validity | AI0403.05 |
| STATISTICAL METHODS | AI06 |
| ANOVA | AI0601 |
| MANOVA | AI0602 |
| Correlation analysis | AI0603 |
| Regression analysis | AI0604 |
| Discriminant analysis | AI0605 |
| Factor analysis | AI0606 |
| Cluster analysis | AI0607 |
| Conjoint analysis | AI0608 |
| Path analysis | AI0609 |
| Partial least squares | AI0610 |
| LISREL | AI0611 |
| Non-parametric statistics | AI0612 |
| RESEARCH MODELS | AI07 |
| Causal models | AI0701 |
| Contingency models | AI0702 |
| UF Contingency theory | |
| Structuration theory | AI0703 |
| EPISTEMOLOGY | AI08 |
| Positivist perspective | AI0801 |
| Interpretivist perspective | AI0802 |
| Critical perspective | AI0803 |
| Frames | AL0101 |
| Scripts | AL0102 |
| Predicate logic | AL0103 |
| Rule-based representation | AL0104 |

| | |
|---------------------------------------|-----------|
| Semantic networks | AL0105 |
| NEURAL NETWORKS | AL02 |
| DEDUCTION AND REASONING | AL03 |
| Analogical reasoning | AL0301 |
| Fuzzy reasoning | AL0302 |
| Probabilistic reasoning | AL0303 |
| Rule-based deduction | AL0304 |
| Answer/reason extraction | AL0305 |
| Approximate reasoning | AL0306 |
| Memory-based reasoning | AL0307 |
| KNOWLEDGE ACQUISITION | AL04 |
| AGENCY THEORY | AM01 |
| TRANSACTION COST ECONOMICS | AM02 |
| Contract | AM0201 |
| Communications industry | BA0212 |
| Banking industry | BA0213 |
| Insurance industry | BA0214 |
| Real estate industry | BA0215 |
| Software industry | BA0216 |
| Travel industry | BA0217 |
| INTERNATIONAL BUSINESS | BA05 |
| Federal government | BC0101 |
| Local government | BC0102 |
| State government | BC0103 |
| Family | BD0402 |
| Optical disk | CA0204 |
| CD-ROM | CA0205 |
| ATM | CA0206 |
| UF Automatic teller machine | |
| Pen | CA0207 |
| Circuit switching networks | CA1006 |
| Store-and-forward networks | CA1007 |
| ISDN | CA1008 |
| UF Integrated service digital network | |
| MULTIMEDIA | CA14 |
| CLIENT-SERVER | CA15 |
| SQL | CB0602.04 |
| UF Structured Query Language | |
| Object-oriented DBMS | CB0608 |
| 3RD GENERATION LANGUAGES | CB07 |

| | |
|-------------------------------------------|-----------|
| Hypertext | CB0902.01 |
| ALGORITHMS | CB13 |
| ORGANIZATIONAL VALUE CHAIN | DA10 |
| Information intensity | DA1001 |
| TASK EQUIVOCALITY | DC09 |
| Business process re-engineering | DD0402 |
| UF Business process redesign | |
| UF Business process transformation | |
| UF Process innovation | |
| Diffusion of innovation | DD0502 |
| SOFTWARE CONTRACTS | ED03 |
| IS project risk management | EE0101 |
| Effort estimation | EE0501 |
| Time estimation | EE0502 |
| Cost estimation | EE0503 |
| Risk assessment | EE0504 |
| Information engineering | EF0107 |
| Alignment of IS plans with business plans | EF0201 |
| Capacity planning | EF0501 |
| Application portfolio | EF0602 |
| INFORMATION ARCHITECTURE | EF09 |
| Help desks | EG0204 |
| Knowledge engineer | EH0115 |
| Software engineer | EH0116 |
| Function point analysis | EI0112 |
| COCOMO | EI0113 |
| Group performance | EI0205.05 |
| Software quality | EI0206.01 |
| Service quality | EI0206.03 |
| Software development time | EI0218 |
| IS development effort | EI0220 |
| UF Software development effort | |
| Risk | EI0221 |
| Complexity | EI0222 |
| Accessibility | EI0223 |
| Sophistication | EI0224 |
| Strategic impact | EI0225 |
| System acceptance | EI0226 |
| COMPUTER CRIME | EK09 |
| COMPUTER VIRUSES | EK10 |

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|-------------------------------------------|-----------|
| IS project abandonment | EL0201 |
| IS project failures | EL0202 |
| OUTSOURCING OF IS | EL07 |
| IS RISK MANAGEMENT | EL08 |
| GLOBALIZATION OF IS | EL09 |
| IS DOWNSIZING | EL10 |
| OBJECT-ORIENTED APPROACH | FA11 |
| REVERSE ENGINEERING | FA12 |
| Dialog design | FB0403.04 |
| Communication network design | FB0404 |
| Knowledge-base design | FB0405 |
| Object-oriented programming | FB0503.06 |
| POST AUDIT | FB09 |
| UF POST-IMPLEMENTATION AUDIT | |
| CASE | FC04 |
| UF COMPUTER-ASSISTED SOFTWARE ENGINEERING | |
| OBJECT-ORIENTED ANALYSIS | FC28 |
| OBJECT-ORIENTED DESIGN | FC29 |
| Expert users | GB0405 |
| Novice users | GB0406 |
| Executive | GB0802 |
| Middle manager | GB0803 |
| Senior management | GB0804 |
| UF Top management | |
| Entry-level personnel | GB0805 |
| MANAGEMENT SUPPORT SYSTEMS | HA05 |
| Electronic markets | HA0702 |
| Computer conferencing | HA0802 |
| Audio conference | HA0808 |
| Voice messaging | HA0809 |
| Document retrieval systems | HA1001 |
| ELECTRONIC MEETING SYSTEMS | HA11 |
| UF EMS | |
| Electronic meetings | HA1101 |
| COLLABORATIVE WORK SYSTEMS | H12 |
| Collaborative writing | HA1201 |
| Document sharing | HA1202 |
| IMAGE SYSTEMS | HA14 |
| AUTHORING SYSTEMS | HA15 |
| Cash management system | HB1101 |

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|-----------------------------------------------------------|--------|
| GLOBAL IS | HB31 |
| AIRLINE RESERVATION SYSTEMS | HB32 |
| Database views | HC0103 |
| Direct manipulation | HC0104 |
| Graphical user interface | HD0108 |
| Natural language interface | HD0109 |
| Interactive interface | HD0110 |
| IS JOURNALS | IB06 |
| ACM | IC04 |
| UF ASSOCIATION FOR COMPUTING MACHINERY | |
| IFIP | IC05 |
| UF INTERNATIONAL FEDERATION FOR INFORMATION PROCESSING | |
| ISO | IC06 |
| UF INTERNATIONAL ORGANIZATION FOR STANDARDIZATION | |
| DPMA | IC07 |
| UF DATA PROCESSING MANAGEMENT ASSOCIATION | |
| ICCP | IC08 |
| UF INSTITUTE FOR CERTIFICATION OF COMPUTER PROFESSIONALS | |

Appendix B

Deleted Keywords

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|----------------------------------------------------------|------------|
| General information | AI109 |
| Methodological study | AI0112 |
| Other | AI0114 |
| Self-contained query languages | B0602.0301 |
| ADMINISTRATION OF COMPUTER CENTERS | EC |
| Program efficiency | EJ0202.01 |
| Program complexity | EJ0202.02 |
| COMPUTER-AIDED ANALYSIS AND DESIGN | FC04 |
| PSL/PSA | FC0401 |
| UF Problem statement language/problem statement analyzer | |
| COMMON SYSTEMS | HA12 |