APPENDIX G
Draft Codebook Based on Early Coding Experience

This appendix contains the codebook developed based on coding five of the guided interviews. The coding categories derived from Bogdin and Biklen’s coding families (1972), and the detailed codes were derived from the actual data in the interviews. The first list is simply the labels for the code. The second list contains working definitions for the codes. This coding scheme was superseded by one based on the systems model and the additional coding categories identified in the inductive analysis.

FIRST LEVEL CATEGORIES & CODES --

Labels

Activity Codes
AC-ZIG Meeting Activity

Event Codes
EC-Aagaard Drafts Protocols (Application & Presentation)
EC-ALA Telecommunications Committee
EC-Congress Restricts LC Access
EC-Implementors Testbed
EC-Lsp
EC-Maintenance Agency
EC-Nac/Nag
EC-Nclis/nbs Protocol Task Force
EC-Ntag
EC-Nypl/lncs Protocol
EC-Pips
EC-Sc D
EC-Sc D-1984 Draft
EC-Sc D-1988 Draft
EC-1992 Draft
EC-1995 Draft
EC-Z39.50 Implementors Group (ZIG)

Perspective Held by Subjects Codes
PHSC-Burden of Work in Standards Development
PHSC-Challenges to Linking Systems
PHSC-Comparing ZIG Meetings
PHSC-Description of SC D
PHSC-Description of Stakeholders
PHSC-Description of ZIG Meeting
PHSC-Factors for Successful Standards Development and Use
PHSC-Formal Standards Process vs. Other Standards Processes
PHSC-Goal of Standardization
PHSC-Growth and Evolution of Standard
PHSC-Implementation Experience and its Utility for Standardization

PHSC-Management of Standard and its Implementation
PHSC-Operational and Use Goal
PHSC-Problems with Standards Environment
PHSC-Relationship of Early Protocol Work and SC D
PHSC-Relationship of LSP and Z39.50
PHSC-Scope of Standards
PHSC-Specific Actions of Resistance to a Standard or Standardization Approach
PHSC-Success Measures of Standards

Relationship & Social Structure Codes
RSSH-Users & Providers

Strategy Codes
SC-Announcing/Implementing Features
SC-Gaining Support for Standard
SC-Raising Issues in ZIG
SC-Stakeholder Influence on Standards Development
SC-Technological Approaches/Solutions
SC-Timing
SC-When to Implement

Setting/Context Codes
SCC-Standards Development Phases

Subjects’ Ways of Thinking about People & Objects
SWTPO-Barriers to Successful Standards Development
SWTPO--Characterizing What a Standard is
SWTPO-Choosing OSI
SWTPO-Implementation Prior to Standard’s Approval
SWTPO-Knowledge of a Standard Being Worked on
SWTPO-Lurking Issue
SWTPO-Relying on Staff Experts
SWTPO-Vision of National Network -- 1970s
SYSTMS MODEL CODES -- Labels

Environment Codes
E-Characteristics of Installed Base 1970s
E-Implementors Testbed
E-Influence of Other Standards, TCP/IP
E-Popular Awareness of Need for Standard or Approach to Solving a Problem

Input Codes
I-Externally Developed Protocol Draft
I-Lurking Issue--ZIG
I-Political Influence of Stakeholders
I-Requirement for Standard
I-Stakeholder's Agenda and Requirements

Process Codes
P-Closure on Draft
P-Developing 1984 Draft
P-Investigating Differences in Searches on Systems

First Level Categories & Codes -- Definitions

AC-Activity Codes
AC-ZIG Meeting Activity
Describes activities or actions occurring in the ZIG meeting; assumption is that there is some regularity in occurrence. Contrast with “Event.”

EC-Event Codes
EC-Aagaard Drafts Protocols (Application & Presentation)
References to the work of Aagaard from Northwestern and Davison from RLG to draft a set of protocols for application and presentation layers.

EC-ALA Telecommunications Committee
References to the ALA Telecommunications Committee that was active in 1975-1976.

EC-Congress Restricts LC Access
References to the 1978/1979 activities surrounding Congressional restrictions of online access to LC computers for “security reasons.”

EC-Implementors Testbed
An important event perceived by respondent related to a testbed to demonstrate features and interoperability of standard.
EC-Sc D-1984 Draft
Information about the development and balloting of 1984 draft.

EC-Sc D-1988 Draft
Information about the development and balloting of the 1988 draft

EC-1992 Draft
Information about the development and balloting of the 1992 draft.

EC-1995 Draft
Information about the development and balloting of the 1992 draft.

EC-Z39.50 Implementors Group (ZIG)
References and information about the ZIG

Perspective Held by Subjects Codes (PHSC)

PHSC-Burden of Work in Standards Development
Descriptions of who does the work in a standards development effort.

PHSC-Challenges to Linking Systems
Technical, social, political, or other barriers and issues that stood in the way of linking systems.

PHSC-Comparing ZIG Meetings
Discussion in which one or more meetings of the ZIG are compared in terms of activities, events, processes, etc. This from the perspective of participant.

PHSC-Description of SC D
Descriptions about the status, operation, or other comments about SC D.

PHSC-Description of Stakeholders
Any comments or descriptions by one person of one or more stakeholders. Description or attribution could be positive or negative.

PHSC-Description of ZIG Meeting
General description of a ZIG meeting from the perspective of participant.

PHSC-Factors for Successful Standards Development and Use
Identification of any factors, entities, etc. needed for a successful development process. Could be considered as inputs into the standards process. Also could include things that need to be done to get the standard used.

PHSC-Formal Standards Process vs. Other Standards Processes
Statements that compare one standards process with others, and give reasons why a certain one is seen as better.

PHSC-Goal of Standardization

PHSC-Growth and Evolution of Standard
Identifies what occurs as standards are put to use, their growth and evolution to respond to needs -- whether or not that growth is controlled.

PHSC-Implementation Experience and its Utility for Standardization
Comments that describe or state thoughts about how implementations and other efforts such as prototyping can be useful in standardization efforts.

PHSC-Management of Standard and its Implementation
Ways in which a standard and its implementation is controlled or managed once it is underway. Includes issues of increased numbers of stakeholders that want to be involved.

PHSC-Operational and Use Goal

PHSC-Problems with Standards Environment
Comments on the status of the standards environment, what happens without standards, and problems with the standardization process.

PHSC-Relationship of Early Protocol Work and SC D
Discussions about the early protocol activities such as NCLIS/NBS and how that did or did not feed into SC D work.

PHSC-Relationship of LSP and Z39.50
Discussions about the relationship between the Linked Systems Project and the protocols developed for that and the work of SC D and the development of Z39.50.

PHSC-Scope of Standards
Statements relating to the initial or evolving scope of a standard, and the basis for the scope of particular standards at specific times.
PHSC-Specific Actions of Resistance to a Standard or Standardization Approach
Identifying specific actions that one or more people used in resisting all or part of a standard or standardization effort or approach

PHSC-Success Measures of Standards
Statements identifying things, issues, or concerns that point to what makes a standard a success.

Relationship & Social Structure Codes (RSSC)

RSSC-Users & Providers
Suggests a connection or relationship between actions of users and providers, e.g., users of Z39.50 products and providers/implementors of those products.

Strategy Codes (SC)

SC-Announcing/Implementing Features
Implementor announces or implements new features to achieve specific goals, such as providing users with a sense of satisfaction.

SC-Gaining Support for Standard
Activities and actions used by a stakeholder to gain support for a standard or even an approach to a standard. This is difference from building consensus, which I will use in a more formal restricted sense. These are related.

SC-Raising Issues in ZIG
Stakeholder brings an issue to the ZIG for action by the ZIG.

SC-Stakeholder Influence on Standards Development
Actions by a stakeholder to influence the actions and choices by other standards developers or the standards process.

SC-Technological Approaches/Solutions
Ideas for ways of solving a problem. Not necessarily as a part of a standard, but a way of thinking about how to solve a technological problem.

SC-Timing
Effects of timing on actions or behaviors to achieve goals.

SC-When to Implement
Considerations in deciding to implement specific features of the standard to achieve certain goals.

Setting/Context Codes (SCC)

SCC-Standards Development Phases
Any specific mention of phases or stages in standards development as defined/described by respondent.

Subjects’ Ways of Thinking about People & Objects (SWTPO)

SWTPO-Barriers to Successful Standards Development
Statements of what should not be done in the standards development process. Things, activities, and attitudes that stand as barriers to the process.

SWTPO--Characterizing What a Standard is
Descriptions, metaphors, or other labels that provide an understanding of how a person sees/understands what a standard is

SWTPO-Choosing OSI
Explanations, descriptions and comments about the reasons for people to choose OSI at the beginning of the development of linking systems.

SWTPO-Implementation Prior to Standard’s Approval
Respondent’s reflection on considerations and issues in timing implementation of features.

SWTPO-Knowledge of a Standard Being Worked on
Statements about how well one becomes familiar with a standard. Expresses an emotional relationship or metaphor.

SWTPO-Lurking Issue
Description of an issue that has yet to be addressed or resolved.

SWTPO-Vision of National Network -- 1970s
Statements that describe an idea, vision, activity, or other related information about the national network as it existed in the 1970s.

SWTPO-Relying on Staff Experts
Comments and reflections on the problems and advantages for a decisionmaker to rely on staff experts rather than being in a position to know for him/herself.
**SYSTEMS MODEL CODES -- Definitions**

**Environment Codes (E)**

**E-Characteristics of Installed Base 1970s**
Any descriptions of the technology or characteristics of what it could or could not do. Could identify potential problems that needed to be addressed in the development of a network to link systems.

**E-Implementors Testbed**
An organized activity among stakeholders and implementors to demonstrate features of the standard and interoperability of the implementations. Tentatively places in the environment, but may be included in the system.

**E-Influence of Other Standards, TCP/IP**
Any characterization of the effects of other standards, particularly TCP/IP vs. OSI.

**E-Popular Awareness of Need for Standard or Approach to Solving a Problem**
Identification of changes or emergence in the environment of people's awareness of a need or a way to solve a particular problem.

**Input Codes (I)**

**I-Externally Developed Protocol Draft**
An input into SC D was the Protocol that was developed by Aagaard and others that was to be used in LSP and was also reviewed by SC D.

**I-Lurking Issue--ZIG**
An issue that has yet to be addressed or resolved that is brought to attention of ZIG.

**I-Political Influence of Stakeholders**
Describes actions by certain powerful stakeholders to get movement on the standard. Intended to indicate the use of power on the standards committee to get something done.

**I-Requirement for Standard**
Specific identification of technical or other requirements that the standard should address.

**I-Stakeholder's Agenda and Requirements**
Any things that would be brought to the standards process by a stakeholder representative that reflects a stakeholder's agenda or other requirements. These may or may not have the effect of slowing down or hindering the process of developing the standard.

**Process Codes (P)**

**P-Closure on Draft**
Identifies actions around the period of finalizing a draft standard and preparing it for ballot.

**P-LSP Protocol Development Process**
Describes actions that occurred in developing the LSP Protocols. Focus on the processes used such as meetings, traveling, planning, etc.

**P-Developing 1984 Draft**
Anything related to the process of developing the 1984 draft of the standard.

**P-Investigating Differences in Searches on Systems**
Describes actions taken to understand the differences between systems and how they represented and processed searches.

**P-ScD Process -- Informal and Formal**
Describes the way the SC D carried out its work in both formal and informal ways.

**P-Standards Committee Appointments**
Description of how the standards committee appointments were made and any other comments about standards committee membership.

**Stakeholder Codes (S)**

**S-Changes in Perspective over Time**
Statements where a stakeholder identifies changes in his or her perspective or attitude about an issue or topic over time.

**S-Differences in Perspective**
Instance where specific differences between stakeholders exist.

**S-Funders of Z39.50 Development**
Identifies name of organizations that supported the development of Z39.50.

**S-Implementation Activities/History**
Describes a stakeholders actions or behaviors regarding implementation of the standard.

**S-Interaction Among Stakeholders**
Describes activities among and between stakeholders to get things moving. Includes indications of compromises and trading.
S-Pre SC D Stakeholders
Describes, lists, or names people and organizations that were participants or otherwise had a stake in the development of the technology that pointed toward interoperable computer systems.

S-Resistance and Barriers of Stakeholders
Any reasons or issues by stakeholders for resisting activities having to do with technology or standardization.

S-Role of Chair of Standards Committee
Descriptions of what a chair of standard committee must do including roles, responsibilities, activities, and work.

S-Voting Representatives
Describes activities and attitudes and other aspects of voting representatives including interaction with members of standards committee.

S-ZIG Member’s Role
Identifies stakeholder’s actions within the ZIG that characterizes a particular role played out by the stakeholder.

Critical Factor (CF)

CF-Demonstrating Features & Interoperability
Need to show how the standard can be implemented to ensure success of standard.