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Towards identifiying the skills required for the changing role of the systems analyst

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guiding (Martin, 1982, p.332)

identifying appropriate methodologies (Wood-Harper and FitzGerald, 1982, p.12)

identifying competitive advantages (Slotnick, 1984, p.112)

information centre consulting (Barr and Kochen, 1984, p.169).

6.3.1.5 DATABASE DESIGNER GROUP (see section 6.2.4.3.2)

ROLES INCLUDED: Data element identifier, Logical data modeller, Methodology expert, Tools expert

ROLE EXCLUDES: Task performer

ROLES/SKILLS LINK:

There are two distinct sets of skills in this role. The first concerns the physical data elements (Lee, 1981, p.223), and concerns skills which include:

data element analyzing/identifying (Gore and Stubbe, 1983, p.191)

designing data structures (Pressman, 1982, p.39)

designing files (Lee, 1981, p.215)

ensuring data independence (Lee, 1981, p.217)

ensuring data integrity (Davenport, 1980, p.509)

using appropriate tools (Thierauf, 1986, p.643).

The second set of skills ensures a separating of the physical and logical data structures (Lee, 1981, p.246). The skills within this group include:

integrating data (Lee, 1981, p.216)

logical data modelling (Martin, 1981, p.131)

normalizing data (Dickson and Wetherbe, 1985, p.213).

Other skills appropriate to these roles which were identified in the literature were:

determining system performance (Davenport, 1980, p.506)

providing input to the data dictionary (Dickson and Wetherbe, 1985, p.210)

using data dictionaries (Navathe and Kerschberg, 1986, p.21)

working with the DBA (Gore and Stubbe, 1983, p.368).

6.3.1.6 DEVELOPER GROUP (see section 6.2.4.3.3)

ROLES INCLUDED: Methodology expert, Programmer (4GL), Programmer (3GL), Reconciler, Reviewer, Specialist, Technical assessor, Technician, Tools expert

ROLES EXCLUDED: Estimator, Task performer, User

ROLES/SKILLS LINK:

The role of the systems developer is involved with the building of systems (Jackson, 1986, p.248) rather than analyzing system requirements (Gore and Stubbe, 1983, p.46).

As a methodology expert the future systems analyst will require skills in:

evaluating methodologies (by deduction from Capron, 1986, p.237)

evaluating technologies (Canning, 1984b, p.4)

reviewing (Boar, 1986, p.28)

skill: I.S. technology (Davis D, 1983, p.17)

skill: technical (McLeod and Forkner, 1982, p.308).

Various application development methods have been identified in the literature. Skills in each of these are considered necessary for the systems analyst of the future:

generating applications (Martin, 1982, p.339)

identifying appropriate development approach (Sumner, 1986, p.205)

keeping abreast of technology (Ostle, 1985, p.37)

programming (4GL) (Davis and Olson, 1985, p.426)

programming (3GL) (Greenwood et al., 1986, p.12)

structuring algorithms (by deduction from Ostle, 1985, p.31)

testing (Davis and Olson, 1985, p.585)

using appropriate tools (Thierauf, 1986, p.643)

using automated development methods (Thierauf, 1986, p.643)

using development workstations (Davis and Olson, 1985, p.413).

Another dimension of role is the responsibility of developing systems which can be audited (Martin, 1982, p.336). To achieve this skills in system controls and security are required (FitzGerald et al., 1981, p.193).

6.3.1.7 ESTIMATOR GROUP (see section 6.2.4.1.2)

ROLES INCLUDED: Cost estimator, Forecaster, Time estimator

ROLES EXCLUDED: Numerator

ROLES/SKILLS LINK:

To be able to function effectively in these roles, the following skills are needed:

cost benefit analyzing/cost justifying (Harold, 1983, p.105)

critical-path analyzing (Capron, 1986, p.373)

decomposing tasks (by deduction from Gore and Stubbe, 1983, p.116)

estimating (resource requirements) (Keen, 1981, p.187)

estimating (time and cost) (Harold, 1983, p.105)

forecasting (by deduction from Bowman et al., 1983, p.15)

6.3.1.8 FACT FINDER (DATA GATHERER) GROUP (see section 6.2.4.2.3)

ROLES INCLUDED: Diplomat, Observer, Problem recognizer, Reviewer

ROLES EXCLUDED: Communicator

ROLES/SKILLS LINK:

To be able to function effectively in these roles the following skills are considered necessary:

evaluating information (Grindlay, 1981, p.15)

investigating (Lee, 1981, p.103)

keeping records (McLeod and Forkner, 1982, p.308)

observing (Wetherbe, 1979, p.97)

questioning (Lee, 1981, p.106)

recognizing problems (Wetherbe, 1979, p.97)

reviewing documents (Wetherbe, 1979, p.97)

sampling (Capron, 1986, p.110)

searching records (Lee, 1981, p.104)

using questionnaires (Wetherbe, 1979, p.97).

6.3.1.9 GENERALIST GROUP (see section 6.2.4.3.4)

Argument for the future systems analyst filling a generalist role is

presented in section 6.2.4.3.4. This argument received indirect, but strong support from the wide range of skills identified in this section (section 6.3.1). The skills required to cover each of the identified roles suggest the systems analyst of the future must be a generalist (see section 7.5.2.1).

6.3.1.10 IMPLEMENTOR GROUP (see section 6.2.4.3.5)

ROLES INCLUDED: Buyer, Converter of user procedures, Co-ordinator, Evaluator, File creator, Forecaster, Methodology expert, Organizer, Seller, Systems tester, Technical assessor, Technician, Test data designer, Tools expert

ROLES EXCLUDED: Change agent, Estimator, Instructor, Task performer

ROLES/SKILL LINK:

Some of the roles in this group (e.g. Buyer, Technician, Tools expert) were identified earlier in this section (e.g. in section 6.3.1.4 The Consultant Group). The skills required for these roles will not be repeated here.

The role of the implementor can be viewed from either the users' or a technical perspective. The skills required for this role from the users' perspective include:

estimating (Harold, 1983, p.105)

implementing appropriate systems (Clarke and Prins, 1986, p.32)

skill: conversion procedures (Lee, 1981, p.419).

From the technical perspective the following skills are considered

necessary:

file creating (Crocker, 1984, p.36)

installing packages (Kindred, 1985, p.330)

skill: hardware/software (Ostle, 1985, p.34)

skill: teleprocessing (Harold, 1983, p.105)

systems testing (Crocker, 1984, p.36)

test data designing (Crocker, 1984, p.36).

Within this responsibility of implementing is the role of organizer. For this role at least the following skills are required (see also Project Manager Group, section 6.3.1.15):

co-ordinating work (Capron, 1986, p.38)

organizing (Keen, 1981, p.214)

planning (Capron, 1986, p.39).

6.3.1.11 INSTRUCTOR GROUP (see section 6.2.4.2.4)

ROLES INCLUDED: Educator, Instructor, Seller, Teacher, Trainer

ROLES/SKILLS LINK:

To be effective in this group of roles, the future systems analyst will require skills which include:

educating (Martin, 1982, p.335)

instructing (by deduction from Cox and Snyder, 1985, p.247)

selling ideas (FitzGerald et al., 1981, p.236)

teaching (Watts et al., 1980, p.30)

training (Jenkins, 1986, p.30).

6.3.1.12 INTERPERSONAL FACILITATOR GROUP (see section 6.2.4.2.5)

ROLES INCLUDED: Arbitrator/Mediator, Co-operator, Diplomat, Enabler/ Helper, Encourager, Facilitator, Motivator, Participant, Politician, Supporter, Team member

ROLES/SKILLS LINK:

This group of roles represent the main thrust of the human side of computing (Shneiderman, 1987). The skills identified as necessary to be effective within these roles include:

arbitrating (Harold, 1983, p.102)
being diplomatic (Harold, 1983, p.102)
being patient (Ostle, 1985, p.30)
being politically aware (Davis and Olson, 1985, p.458)
co-operating (Spock, 1985, p.114)
enabling/helping (Martin, 1982, p.332)
encouraging (Martin, 1982, p.334)
facilitating (Rivard and Huff, 1985, p.90)
functioning in a team (Semprevivo, 1982, p.66)
motivating (Drucker, 1977, p.55)
participating (Newman and Rosenberg, 1985, p.404)
skill: interpersonal relationship (Ostle, 1985, p.30)
skill: relating to people/organizations (Benbasat et al., 1980, p.30)
supporting (Thomsett, 1980, p.43)
working with/through others (Thierauf, 1986, p.5).

6.1.3.1.13 LEARNER GROUP (see section 6.2.4.2.6)

How people learn is a subject outside the discipline of systems analysis (e.g. Deese and Hulse, 1967). No attempt was made to explore the issues involved, other than at a superficial level. The skills listed in this section are based on the dictionary definition of 'learn' (Collins, 1979), and intuition.

ROLES INCLUDED: Acceptor, Listener, Observer, Understander

ROLES/SKILLS LINK:

accepting -
acquiring skills (Collins, 1979)
becoming informed (Collins, 1979)
comprehending -
enhancing skills -
gaining experience (Collins, 1979)
gaining knowledge (Collins, 1979)
listening (Nylen et al., 1967, p.119)
observing (Capron, 1986, p.100)
reading -
remembering -
understanding (by deduction from Leeson, 1981, p.53).

6.3.1.14 NUMERATOR GROUP (see section 6.2.4.2.7)

ROLES INCLUDED: Analytical modeller, Mathematical modeller, Mathematician, Statistician

ROLES/SKILLS LINK:

There is a group of literature references which suggest that the systems analyst must have numerate skills. To be able to fill the roles in this group it is suggested that the following skills are required:

analytical modelling (Harold, 1983, p.17)

mathematical modelling (Byrkett and Uckan, 1985, p.45)

mathematics (Byrkett and Uckan, 1985, p.45)

sampling (Capron, 1986, p.110)

statistics (Jenkins, 1986, p.32).

6.3.1.15 PROJECT MANAGER GROUP (see section 6.2.4.3.6)

ROLES INCLUDED: Advisor/Mentor, Appraiser, Controller, Co-ordinator, Delegator, Evaluator, Leader, Motivator, Organizer, Project planner, Scheduler

ROLES EXCLUDED: Estimator, Task performer

ROLES/SKILLS LINK:

The roles in this section can be grouped into 3 clusters - administrative roles (e.g. determining methods of charging for computer resources), task-orientated roles (e.g. allocating and delegating work) and people-orientated roles (advising and evaluating). The skills required for this group of roles will be clustered in these three groups:

(i) Administrative skills (Keen, 1981, p.125)

budgeting (Keen, 1981, p.59)

record keeping (McLeod and Forkner, 1982, p.308)

skill: charge out (Davis and Olson, 1985, p.465)

(ii) Task-orientated skills

allocating work (Gildersleeve, 1974, p.84)

arranging tasks (Gildersleeve, p.77)

comparing/monitoring (Davis and Olson, 1985, p.322)

controlling (Davis and Olson, 1985, p.315)

co-ordinating (Capron, 1986, p.38)

correcting (Allen, 1969, p.119)

enforcing standards (Davis and Olson, 1985, p.315)

evaluating/verifying work (Sommerville, 1985, p.103)

forecasting (Keen, 1981, p.277)

identifying goals (Davis and Olson, 1985, p.300)

identifying tasks (Keen, 1981, p.199)

organizing (Allen, 1969, p.77)

planning (Capron, 1986, p.39)

post implementation evaluating (Davis and Olson, 1985, p.613)

risk assessing of project (Davis and Olson, 1985, p.465)

scheduling (Harold, 1983, p.105)

setting objectives (Drucker, 1977, p.55)

using technology strategically (Bartol et al., 1986, p.34).

(iii) People orientated skills

delegating (Allen, 1969, p.107)

developing people's potential (Allen, 1969, p.189)

evaluating subordinate's needs (Davis and Olson, 1985, p.647)

leading/directing (Lucas, 1982, p.301)

measuring/reviewing performance (Davis and Olson, 1985, p.433)

motivating (Davis and Olson, 1985, p.646)

rewarding/punishing (Elkins, 1980, p.240)

structuring personnel resources (Allen, 1969, p.85).

6.3.1.16 PROTOTYPER GROUP (see section 6.2.4.3.7)

ROLES INCLUDED: Programmer (4GL), Reconciler, Specialist

ROLES EXCLUDED: Analyst, Implementor, Systems designer

ROLES/SKILLS LINK:

The skills required for the roles excluded from this group make up the majority of the skills required for the group as a whole (see sections 6.3.1.1, 6.3.1.10 and 6.3.1.20). The skills required uniquely for this group include:

programming (4GL) (Davis and Olson, 1985, p.426)

prototyping (Boar, 1986, p.28)

reconciling (world views) (Lee, 1981, p.49)

specialist (prototyper) (Martin, 1982, p.337).

6.3.1.17 QUALITY ASSURER GROUP (see section 6.2.4.1.3)

ROLES INCLUDED: Evaluator, Reviewer, Specialist

ROLES/SKILLS LINK:

The idea that the systems analyst should be involved as a QA specialist is found, for example, in Harold, 1983, p.102. If this is to be so, then the skills required to perform effectively within this role includes:

developing QA standards/procedures (QA Conference, 1982, p.A-13)
ensuring security of system (Martin, 1982, p.338)
ensuring user requirements met (QA Conference, 1982, p.A-13)
evaluating products (QA Conference, 1982, p.A-13)
evaluating systems (Leeson, 1981, p.449)
post implementation evaluating (Davis and Olson, 1985, p.613)
providing technical advice (QA Conference, 1982, p.A-13)
reviewing applications (Ostle, 1985, p.160)
signing off development stages (Davis and Olson, 1985, p.610).

6.3.1.18 STRATEGIC PLANNER GROUP (see section 6.2.4.3.8)

ROLES INCLUDED: Business associate, Forecaster

ROLES EXCLUDED: Communicator, Estimator, Numerator, Task performer

ROLES/SKILLS LINK:

The skills required for the role of a business associate have been included in previous groups in this section (e.g. section 6.3.1.1) and consequently will not be repeated here. The unique skills required for the other roles included in this group are:

analyzing business problems (Mumford, 1985, p.97)

forecasting business trends (Canning, 1984b, p.1)

strategic planning (Davis and Olson, 1985, p.444)

using information competitively (Canning, 1984b, p.2)

using technology strategically (Bartol et al., 1986, p.34).

6.3.1.19 SUBORDINATES GROUP (see section 6.2.4.2.8)

ROLES INCLUDED: Acceptor, Co-operator, Participant, Supporter

ROLES EXCLUDED: Learner, Task performer

ROLES/SKILLS LINK:

This group of roles is another which is not confined exclusively to the responsibilities of the systems analyst. Its importance is that the loyalty of the systems analysts of the future is expected to shift from being centred on the computer industry, to being more focused on the companies which employ them (Davis D, 1983, p.16 and Alavi, 1984, p.23). The skills required to function effectively in these roles include:

accepting (Allen, 1969, p.110)

co-operating (Nylen et al., 1967, p.143)

helping (Nylen et al., 1967, p.112)

participating (Newman and Rosenberg, 1985, p.404)

supporting (Thomsett, 1980, p.43).

6.3.1.20 SYSTEMS DESIGNER GROUP (see section 6.2.4.3.9)

ROLES INCLUDED: Conceptual designer, Configuration designer, Decision maker, Physical designer, Reviewer, Specifier,

Technical assessor, Technician, Tools expert

ROLES EXCLUDED: Data base designer, Estimator, Task performer, User

ROLES/SKILLS LINK:

A dictionary definition of 'analysis' excludes any activities associated with design (Collins, 1979). In the literature, however, there is overwhelming evidence that the systems analyst is expected to play a design role. These design responsibilities can be grouped into:

- the computer-based system and the procedures around it;
- manual systems;
- man-machine interfaces;
- security issues.

(i) Skills required to design the computer-based system and the procedures around it:

conceptual designing (Davis and Olson, 1985, p.571)
designing data flows (Semprevivo, 1982, p.88)
designing procedures (Davis and Olson, 1985, p.577)
designing system function (Davis and Olson, 1985, p.577)
designing to meet users needs (Clarke and Prins, 1986, p.23)
designing user workflows (Lee, 1981, p.395).

(ii) Skills required to design manual systems (Jenkins, 1986, p.30)

(iii) Skills required to design man-machine interfaces (Shneiderman, 1987) include:

designing dialogues (Lee, 1981, p.370)
designing forms (Bower et al., 1985, p.281)
designing inputs (Leeson, 1981, p.246)
designing outputs (Clarke and Prins, 1986, p.577)
designing reports (Capron, 1986, p.186)
designing screen layouts (Semprevivo, 1982, p.274)
designing source documents (Leeson, 1981, p.248)
skill: ergonomics (Lee, 1981, p.49).

(iv) Skills required to ensure the system is built in such a way that it can be audited include:

designing audit/control procedures (Davis and Olson, 1985, p.577)
designing audit trails (FitzGerald et al., 1981, p.183)
determining appropriate controls (Davis and Olson, 1985, p.578)
providing security/backup (Davis and Olson, 1985, p.578)

Added to these groups of skills the role of the systems designer requires further groups of what can be termed supportive skills.

(i) Skills required to perform technical responsibilities include:

acquiring/selecting hardware (Thierauf, 1986, p.570)
acquiring/selecting software (Bartol et al., 1986, p.35)
controlling software quality (Davis and Olson, 1985, p.578)
identifying appropriate design approach (Sumner, 1986,

p.205)

identifying correct solution (Chen, 1985, p.38)

keeping abreast of technology (Ostle, 1985, p.37)

specifying data communication requirements (Davis D L, 1983, p.17).

(ii) Written communication skills are suggested by Davis and Olson, 1985, p.578, and include:

specifying programs

writing operations manual

writing user manual.

(iii) Other supportive skills required for this role include:

fact finding (Wetherbe, 1979, p.97)

using charting techniques (Gore and Stubbe, 1983, p.102)

using computer aided design (Martin, 1984, p.163).

5.3.1.21 TASK PERFORMER GROUP

The role of task performer was regarded as part of the subordinate role in section 6.2.4.2.8. Because of its importance it was treated as a separate group in this section. The skills linked to this systems analyst role are those which help to ensure that the various facets of the systems analyst tasks are likely to be performed effectively. The skills include:

attending to detail (Thierauf, 1986, p.6)

being accurate (Thierauf, 1986, p.6)

being creative (Leeson, 1981, p.55)

being disciplined/orderly (Lee, 1981, p.48

being organized (Capron, 1986, pp.39 and 40)

being self-directed (Capron, 1986, pp.39 and 40)

decision making (Wetherbe, 1979, pp.100-102)

record keeping (McLeod and Forkner, 1982, p.308)

working with/through others (Thierauf, 1986, p.5)

working without immediate results (Capron, 1986, p.40).

6.3.1.22 USER GROUP (see section 6.2.4.2.9)

ROLES INCLUDED: Acceptor, Buyer, Technical assessor, Tools expert

ROLES EXCLUDED: Learner, Understander

ROLES/SKILLS LINK:

Some of the skills required for the systems analyst to function as a user of tools, methodologies and technology have been identified in previous sections, (e.g. acquiring/selecting hardware and software) and consequently are not repeated here. Other skills considered necessary include:

evaluating methodologies (by deduction from Thomsett, 1980, p.59)

identifying the impact of change (Capron, 1986, p.36)

using methodologies (Yourdon, 1986, p.134)

using tools (Thierauf, 1986, p.643).

6.3.2 SYNTHESIS OF IDENTIFIED SKILLS

A combination of all the skills identified in section 6.3.1, excluding

obvious duplicates (but still accommodating certain overlapping), was regarded as the third level of the roles/skills model (see figure 6.1). These skills are presented in table 6.4 in alphabetic order, without any attempt to prioritize or cluster them into homogeneous groups. It was only after the new skills clusters were identified in section 7.5.2.1 that the skills in table 6.4 were regrouped with the skills (see section 7.3.2) which were identified during the empirical study.

TABLE 6.4
Level three of roles/skills model
SKILL

- Accepting
- Acting as a catalyst
- Administering
- Advising
- Allocating work
- Analytical modelling
- Analyzing
- Analyzing business problems
- Analyzing data flows
- Acquiring skills
- Acquiring/selecting hardware
- Acquiring/selecting software
- Arbitrating
- Arranging tasks
- Attending to detail
- Becoming informed
- Being accurate
- Being creative
- Being diplomatic
- Being disciplined/orderly

(CONT)

TABLE 6.4 (CONT)

Being patient
Being politically aware
Being self directed
Budgeting
Building competitive positions
Building systems
Combatting resistance to change
Comparing/monitoring
Comprehanding
Conceptual designing
Confronting
Consulting
Controlling
Controlling data redundancy
Controlling quality
Co-operating
Co-ordinating
Co-ordinating work
Coping with resentment
Correcting
Cost-benefit analyzing
Cost-benefit analyzing not needed
Critical-path analyzing
Data element analyzing/identifying
Decision making
Decomposing tasks
Deductive reasoning
Delegating
Designing audit trails
Designing audit/control procedures
Designing computer configurations
Designing data flows

(CONT)

TABLE 6.4 (CONT)

Designing data structures
Designing dialogues
Designing files
Designing forms
Designing inputs
Designing man-machine interfaces
Designing manual systems
Designing outputs
Designing procedures
Designing reports
Designing screen layouts
Designing source documents
Designing system function
Designing to meet user needs
Designing user work flows
Determining controls
Determining data requirements
Determining system feasibility
Determining system performance
Developing people's potential
Developing QA standards/procedures
Documenting
Educating
Enabling/helping
Encouraging
Enforcing
Enforcing standards
Enhancing skills
Ensuring data independence
Ensuring data integrity
Ensuring user requirements met
Estimating

(CONT)

TABLE 6.4 (CONT)

Estimating resource requirements
Estimating skills required
Evaluating existing procedures
Evaluating information
Evaluating methodologies
Evaluating products
Evaluating subordinates needs
Evaluating system
Evaluating technology
Evaluating/verifying work
Facilitating
Fact finding
File creating
Forecasting
Forecasting business trends
Functioning in a team
Gaining experience
Gaining knowledge
Generalist
Generating applications
Guiding
Helping
Identifying appropriate approach
Identifying appropriate methodology
Identifying competitive advantages
Identifying competitive positions
Identifying corporate requirements
Identifying correct solution
Identifying goals
Identifying impact of change
Identifying problems
Identifying receivers frame

(CONT)

TABLE 6.4 (CONT)

Identifying tasks
Identifying user needs/requirements
Implementing appropriate systems
Imposing
Influencing
Information centre consulting
Initiating/instigating
Innovating
Installing packages
Instructing
Integrating data
Interviewing
Introducing change
Investigating
Keeping abreast of technology
Keeping records
Leading/directing
Learning
Listening
Logical data modelling
Mathematical modelling
Mathematics
Measuring/reviewing performance
Mediating
Motivating
Negotiating
Normalizing data
Observing
Organizing
Organizing physical data
Participating
Planning

(CONT)

TABLE 6.4 (CONT)

Post implementation evaluating
Preparing presentations
Prioritizing tasks
Problem identifying
Problem solving
Programming 3GL
Programming 3GL not needed
Programming 4GL
Prototyping
Providing input to data dictionary
Providing security/backup
Providing technical advice
Questioning
Reading
Recognizing problems
Reconciling user requirements
Reconciling world views
Record keeping/note taking
Remembering
Report writing
Reviewing
Reviewing applications
Reviewing documents
Rewarding/punishing
Risk analyzing
Risk assessing projects
Sampling
Scheduling
Searching records
Selling ideas/gaining acceptance
Selling ideas/persuading
Separating physical/logical data structures

(CONT)

TABLE 6.4 (CONT)

Setting objectives
Signing-off development stages
Skill: Business training
Skill: Business (general)
Skill: Charge-out system
Skill: Conversion procedures
Skill: Database/data dictionary
Skill: Ergonomics
Skill: Hardware/software
Skill: Interpersonal relationships
Skill: I.S. technology
Skill: O and M
Skill: Politically aware
Skill: Relating to people
Skill: System controls/security
Skill: Technical
Skill: Telecommunications
Skill: User department not needed
Skill: User department/functional area
Specialist database
Specialist developer
Specialist prototyper
Specialist QA
Specifying
Specifying data communications
Specifying programs
Statistics
Strategic planning
Structuring algorithms
Structuring personnel resources
Supporting
Systems testing

(CONT)

TABLE 6.4 (CONT)

Teaching
Technical assessing
Test data designing
Testing developed systems
Thinking logically
Training
Understanding
Using appropriate tools
Using automatic development methods
Using body language
Using charting techniques/graphics
Using computer aided design
Using data dictionaries
Using data in organizations
Using development work stations
Using information competitively
Using methodologies
Using questionnaires
Using technology strategically
Using development tools
Verbal communicating
Working with DBA
Working with/through others
Working without immediate results
Writing operations manual
Writing user manual
Written communicating

6.4 LIMITATIONS OF THE MODEL

Although the roles/skills model appeared to provide a comprehensive list of systems analyst's skills, the following limitations were identified:

(i) CHANGING ROLE NOT ALWAYS IDENTIFIED

Some authors specifically stated that the skills they identified will be required by the systems analyst of the future (e.g. Martin, 1982, p.331; Watts et al., 1980, p.30; Harold, 1983, p.102; Barr and Kochen, 1984, p.177; Rivard and Huff, 1985, p.90; Clarke and Prins, 1986, p.11). This, however, was not always the case. It had to be assumed, therefore, that provided the systems analysts of the future will have to perform the roles within level two of the model (see section 6.2.2), they will require the skills identified in level three (table 6.6), whether these were specifically identified as future skills, or not.

(ii) NO INDICATION OF THE IMPORTANCE OF THE SKILLS

It is possible that some future systems analyst skills (e.g. communicating, analyzing, prototyping) will be far more important than others (e.g. programming (third generation), testing, statistics). It was not clear if the skills identified in the model fall into the categories of 'may be required' or 'will definitely be required' by the systems analyst in the future. Just from this survey, therefore, it was not possible to identify that set of skills which, if missing, will exclude an individual from being an effective future systems analyst.

(iii) THE IDENTIFIED SKILLS ARE AT DIFFERENT LEVELS OF DETAIL

Some of the skills identified in the literature require that the

individual systems analyst possess a range of abilities (e.g. interpersonal skills, identifying user needs, identifying appropriate systems). On the other hand, some identified skills are much more specific (e.g. report writing, scheduling, reading). The roles/skills model can be further improved by factorizing each skill to approximately the same level of detail.

(iv) THE MEANING OF SOME SKILLS UNCLEAR

Some of the skills identified in the literature have vague (or unclear) meanings (e.g. skill: hardware and software, organizing physical data). This lack of clarity tended to lead to overlapping and redundancy in level three of the model.

(v) RELATED LITERATURE LIMITED

Because a limited amount of literature directly related to identifying the skills profile of the systems analyst of the future, the roles/skills model may be incomplete.

(vi) SOME DIFFERENCE OF OPINION

Some sharp differences of opinion were identified in the literature. Authors were identified who documented diametrically opposed ideas on the importance of certain skills (see table 6.5 below). This contributed to the incompleteness of the model.

TABLE 6.5

Opposing ideas on the importance of certain skills

SKILL	REQUIRED	NOT REQUIRED
Programming (3GL)	Greenwood et al., 1986, p.12	Grindlay, 1981, p.15
Cost-benefit analysis	Harold, 1983, p.105	Lay, 1985, p.31
Skill: user functional area	Alavi, 1985, p.176	Cox and Snyder, 1985, p.248

SUMMARY OF THE INCOMPLETENESS OF THE MODEL

In spite of the limitations of the roles/skills model, the data gathered using this approach was regarded as sufficiently comprehensive to be compared with the list of skills identified from the empirical research (see section 4.4). The findings of the research were based on a combination of these two lists of skills (see section 7.3.2).

6.5 SUMMARY OF THIS CHAPTER

In this chapter details were given of the building of a second conceptual model. This model, based on a detailed search of the literature, was built using primarily deductive reasoning. The model had a structure of three levels, with links being established between each of the levels. Level 1 was the associations which systems analysts of the future are expected to have with their environment. The second level was the roles which a systems analyst will have to fill

within these associations. These roles were grouped into the same three categories which formed the basic structure of the job responsibilities/skills model. The significance of the list of skills required by the systems analyst of the future could be established by linking each skill identified in the literature to at least one of the level 2 roles. These skills constituted the third level of the model.

The validity of the model (which was an adaptation of the Leavitt model of organizations) was tested by the linking of the variables of each of these three levels. The obvious strength of these links established the model's internal consistency.

Level 3 of the model (the identified skills) was used as input to the next stages of the research. In section 7.3.1 these skills were compared to those skills identified by building the roles/skills model, and in section 7.3.2 they were used to build the skills profile of the systems analyst of the future.

CHAPTER SEVEN

THE RESEARCH FINDINGS

7.1 INTRODUCTION TO THE CHAPTER

In this chapter the research findings are presented and comment is offered on their significance. To achieve this the following steps are taken:

- the format for presenting the results of the research is established;
- the research findings are described;
- comment is given on the initial results of the research;
- the research results are analyzed further;
- some factors which influence the required mix of systems analysts' skills are identified.

7.2 FORMAT FOR PRESENTING THE FINDINGS

It was anticipated that the skills profile of the future systems analyst could be compiled simply by combining the findings of the empirical research (section 5.3.2) with the findings of the literature survey (section 6.3). A simple amalgamation of skills was not possible, however, for three reasons:

(i) Simply combining the skills lists resulted in overlapping ideas and obvious redundancy (e.g. determining appropriate development method and identifying appropriate methodology)

(ii) Some of the skills from both lists belonged to broad, high-level groupings (e.g. business practices skills and change agent skills), while others belonged to significantly narrower

categories (e.g. identifying system goals and using automated development tools) and a third group comprised skills of an even more specific nature (e.g. designing forms and specifying programs). A simple amalgamation could have resulted in an over-emphasis on some skills and a duplication of others.

(iii) The strength of opinion of those who participated in the empirical research could be identified. For example:

- fact finding and thinking logically were skill which were regarded as DEFINITELY REQUIRED skills
- statistics and auditing computer systems were regarded as skills which MAY BE REQUIRED. (See Section 5.2.2.2.2)

This distinction could not be made between the skills identified in the roles/skills model built from the literature survey (see section 6.3).

To avoid possible incompleteness and inaccuracies resulting from these problems, it was necessary that the skills profile of the future systems analyst be formatted into specific generic skills clusters. This stage of the research is presented graphically in figure 7.1.

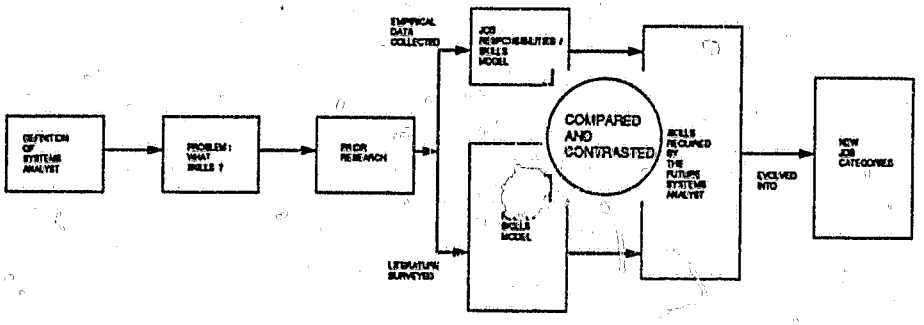

FIGURE 7.1
This stage of the research in context

The skills clusters identified in the literature tended to follow some form of known or perceived systems development life cycle (e.g. Guimaraes, 1980, p.3; Crocker, 1984, p.7; Vitalari, 1985, p.221). As this is likely to change in the future, before the findings of the study could be presented, a new set of skills clusters needed to be developed.

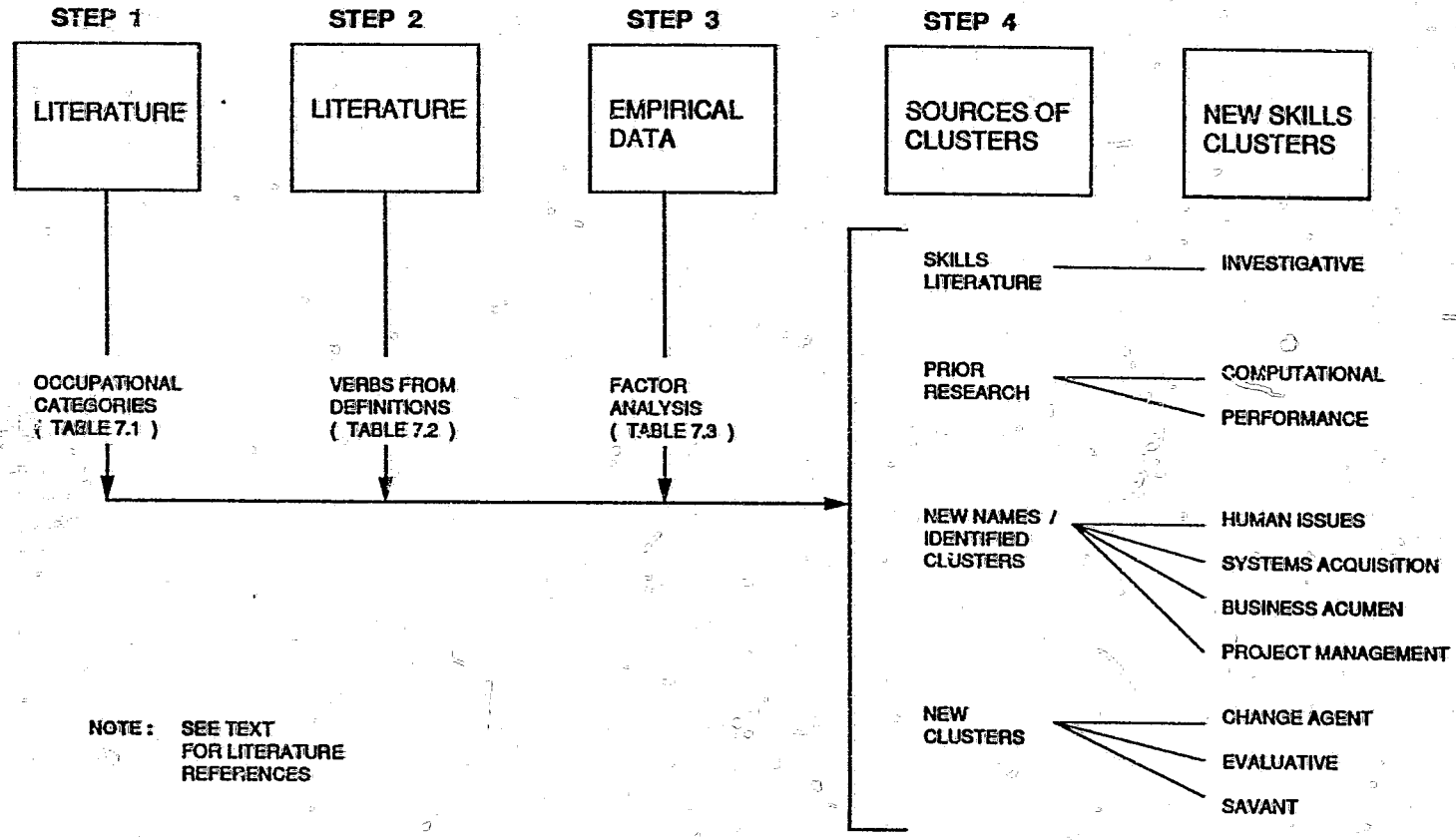

FIGURE 7.2
Steps taken to identify new generic skills

7.2.1 BUILDING THE NEW SKILLS CLUSTERS

The steps followed to identify these new generic groupings were:

(i) Broad work categories were identified to form a basis of the groupings;

(ii) Published definitions of systems analysis were linked to these basic groupings;

(iii) These groupings were expanded and clarified by incorporating the results of factor analyzing the empirical data;

(iv) The final generic groupings were established by comparing and contrasting these findings with the groupings used in previously published research.

The relationship between each of these steps is depicted graphically in figure 7.2.

STEP 1 BROAD WORK CATEGORIES IDENTIFIED

It is claimed that, in Western Culture, the following six types of people can be identified:

realistic
investigative
artistic
social
enterprising
conventional.

Further, it is claimed, each person may be characterized by one, or some combination, of these types (Campbell and Hansen, 1981, p.29).

The same source also asserts that occupational environments can be

divided into the same six types, and each environment is likely to be dominated by a particular type of person (Campbell and Hansen, 1981, p.29).

A summary of the main points in Campbell and Hansen's expansion and description of these categories (which they based on Holland's model), is given below.

REALISTIC

Persons of this type are practical, direct and persistent, prefer concrete to abstract problems and like to build things. Included in this group of occupations are the tool designer and the engineer.

INVESTIGATIVE

This category includes those who enjoy ambitious tasks and, because of a tendency to be analytical and having confidence in their own scholarly and intellectual abilities, prefer to work independently. Vocational preferences here include astronomer and psychologist.

SOCIAL

Persons of the social type like to work in groups (and enjoy being central in the group), they possess good verbal and interpersonal skills and enjoy activities which involve informing and training others. They perceive themselves as understanding, responsible and helpful. The occupations included in this group are the missionary and the teacher.

ENTERPRISING

Persons of this type have verbal skills suited to selling, dominating and leading (which often come with a strong drive to attain and high energy levels). Typical occupational preferences of this group are the business executive and the retail merchandiser.

CONVENTIONAL

Conventional people prefer jobs like, for example, the clerical worker, a financial analyst or a statistician. They enjoy an ordered environment with well-structured tasks and systematic activities.

ARTISTIC

Persons of the artistic type prefer free, unstructured situations which have associated with them a great need for individual expression and a tendency as expressive, intuitive, nonconforming and independent. Vocational preferences include author, artist and musician.
(See Campbell and Hansen, 1981, p.30.)

It was possible, as is shown in table 7.1, to link all but one of these occupational categories to important systems analysts' characteristics which have been identified in the literature (e.g. the systems analyst is analytical (INVESTIGATIVE) and is orderly and practical (CONVENTIONAL) (see section 6.3.1)). The exception was the

ARTISTIC category. Here, rather than finding characteristics which epitomised the systems analyst, the preference to work in unstructured environments, independently and without a willingness to conform, actually hinder the effectiveness of the systems analyst' work (e.g. see Davis and Olson, 1985, p. 315 - the need to enforce standards; Newman and Rosenberg, 1985, p. 404 - the need to participate with others in the design of systems; Thomsett, 1980, p. 43 - the need to support colleagues, and Theirauf, 1986, p. 6 - the need to attend to detail). For this reason the ARTISTIC category was excluded from further analysis.

TABLE 7.1
Description of occupational categories which are significance to systems analysis (based on Campbell and Hansen, 1981, pp.29 and 30)

OCCUPATION CATEGORY	DESCRIPTION
REALISTIC	- is direct, persistent - likes building things
INVESTIGATIVE	- enjoys ambitious tasks - is confident using intellectual abilities - is analytical
SOCIAL	- likes to work in groups - has good verbal/interpersonal skills - enjoys informing, training others
ENTERPRISING	- has verbal skills suited to leadership - has strong drive to attain - has high energy levels
CONVENTIONAL	- prefers well-ordered environments - likes systematic activities - is orderly, practical

From these descriptions it appeared possible to subdivide systems analysis activities into these five basic categories. To be of value to this research the idea needed further development. This was done in step 2.

STEP 2 DEFINITIONS OF SYSTEMS ANALYSIS CATEGORIZED

Verbs from the definitions of systems analysis (see section 2.1.1.4) were linked to the five occupational categories identified in STEP 1 to test if it were possible to subdivide the systems analysis task into these groupings.

REALISTIC

Verbs which linked to this occupational group were those which reflected the practical, concrete activities associated with implementing systems (e.g. build, develop, implement).

INVESTIGATIVE

As was anticipated, the majority of verbs identified from the definitions of systems analysis could be linked to this occupational group which demands a basic analytical approach (e.g. analyze, determine, identify, investigate, solve).

SOCIAL

No verbs from the definition of systems analyst fitted into this category.

ENTERPRISING

The entrepreneurial and managerial emphasis of this group could be identified as reflecting that part of the systems analysts' job which demands the careful control of project activities. Verbs from the definitions of systems analysis which are appropriate here include administer, manage, measure and plan.

CONVENTIONAL

The well-ordered environment, which is characteristic of this group, can be linked to verbs from the definition of systems analysis which include document, specify and audit.

Because of the success of this linking process for four of the five categories, (see table 7.2 for a complete set of verbs), it was concluded that these groupings appeared to provide a basic structure for a new set of systems analyst skills clusters.

The exception to this was the SOCIAL category. As was noted, no verbs in the identified definitions of systems analysis fitted into this group. Because of the importance of interpersonal relationships (see section 6.3.1.2) and ergonomics (Lee, 1981, p.49) to the systems analyst, this omission suggested a further problem with the definition of system analysis (see section 1.3 point iv). It was decided, therefore, to retain the five occupational categories, but to test them further against the empirical data.

TABLE 7.2
Linking of occupational categories to the definition of systems analysis

OCCUPATIONAL CATEGORY	VERBS FROM THE DEFINITIONS
REALISTIC	build, design, develop, implement, maintain, supply
INVESTIGATIVE	analyze, define, determine, evaluate, identify, investigate, model, select, solve, translate
SOCIAL	-
ENTERPRISING	administer, establish, manage, measure, plan, set
CONVENTIONAL	audit, document, secure, specify

STEP 3 EMPIRICAL DATA FACTOR ANALYZED

Further support was given to the idea of clustering future systems analysts' skills into groups based on occupational categories by conducting a factor analysis applied to the correlation matrix of the data collected from the practising systems analysts. (Details of why factor analysis was used on ordinal data were given in section 3.6.2.4). The conclusions in this section were based on the following procedures:

- Data were processed on an IBM mainframe using Version 5 of SAS Institute Incorporated's Statistical Analysis System.
- Following Kim and Mueller (1978, p.48) reliance was placed on the default options of the SAS procedure (e.g. the principal component analysis procedure was used).
- Because the factors were independent, the VARIMAX rotation method was selected (Mardia, Kent and Bibby, 1979, p.269).

- Following the lead of other researchers (e.g. Mahmood, 1987, p.300 and Rivard and Huff, 1988, p.557 (who confirm that this satisfies Fornell and Larcher's criterion)), the loading value for each variable included in the factors was set at a cut-off level of 0,50.
- All factors with an eigenvalue > 1 were selected (Kim and Mueller, 1978, p.49).

As a result of this analysis, 13 factors were identified which included 37 of the possible 58 variables processed (see table 7.3). It was found that each of these factors could be classified into one or, in some cases, a combination of the job categories identified in step 1 above. An illustration is given below to how this was done (the details of each factor is given in table 7.3).

FACTOR 1

The variables identified in this factor are related directly to the task of managing projects. The skills included in the group are project planning, project controlling, scheduling, progress monitoring, task prioritizing and decision making. These activities are consistent with those identified by Campbell and Hansen (1981, p.29) with the enterprising job category.

TABLE 7.3

Classification of skills by Factor Analysis

FACTOR	EIGEN-VALUE	VARIABLE	SKILL	LOADING
1	11,5126	V15	project planning	0,6376
		V16	project controlling	0,8158
		V17	scheduling	0,8333
		V18	progress monitoring	0,7673
		V53	test prioritizing	0,5164
		V55	decision making	0,5224
	SUGGESTED CATEGORY:		ENTERPRISING	
2	4,6312	V39	designing installation configurations	0,8144
		V40	designing computer networks	0,9116
		V41	determining TP requirements	0,8828
	SUGGESTED CATEGORY:		REALISTIC	
3	3,0520	V43	working in team	0,8510
		V44	dealing with people	0,7890
		V45	being diplomatic	0,6028
		V52	motivating/managing people	0,5405
	SUGGESTED CATEGORY:		SOCIAL	
4	2,4037	V46	interviewing	0,6918
		V47	verbal communicating	0,6005
		V48	report writing	0,7461
		V49	presentation preparing	0,5935
	SUGGESTED CATEGORY:		SPECIAL	
5	2,3234	V13	identifying competitive advantages	0,8296
		V14	building competitive positions	0,8083
	SUGGESTED CATEGORY:		INVESTIGATIVE/REALISTIC	

(CONT)

TABLE 7.3 (CONT)

FACTOR	EIGEN-VALUE	VARIABLE	SKILL	LOADING
6	1,8980	V32	implementing depart. structures	0,7599
		V34	implementing office procedures	0,7479
	SUGGESTED CATEGORY:		SOCIAL/REALISTIC	
7	1,7572	V10	determining system security	0,8469
		V11	determining system controls	0,8181
	SUGGESTED CATEGORY:		INVESTIGATIVE	
8	1,6408	V27	evaluating packages	0,8803
		V28	implementing packages	0,9053
	SUGGESTED CATEGORY:		INVESTIGATIVE/REALISTIC	
9	1,5078	V36	determining data req.	0,7036
		V28	designing data models	0,7091
	SUGGESTED CATEGORY:		INVESTIGATIVE/REALISTIC	
10	1,4131	V4	problem solving	0,7739
		V5	thinking logically	0,7362
	SUGGESTED CATEGORY:		INVESTIGATIVE	
11	1,2536	V9	using structured analysis	0,5492
		V21	critical path analysis	0,6120
		V23	constructing algorithms	0,6824
	SUGGESTED CATEGORY:		REALISTIC	
12	1,1975	V1	evaluating procedures	0,7933
		V2	fact finding	0,6825
	SUGGESTED CATEGORY:		INVESTIGATIVE	
13	1,0819	V25	FORTRAN programming	0,6924
		V26	ADA programming	0,6402
	SUGGESTED CATEGORY:		REALISTIC	

NOTE:

(i) Only factors with on eigenvalue > 1 were used.

(ii) The cumulative proportion explained by these factors = 0,82.

This classification procedure presented no intrinsic problems and consequently the factor analysis step was regarded as one which strengthen the idea that future systems analysts' skills could be regrouped into new categories. Because it was found that certain of the identified factors needed to be placed in combined categories, two things were suggested:

(i) A classification system of only five types of skills was insufficient for the wide diversity expected in the future systems analysts' working environment (see Campbell and Hansen, 1981, p.29).

(ii) Although the categories from Campbell and Hansen provided a base, the actual regrouping of these skills required further refinement (see step 4).

STEP 4 OTHER SKILLS GROUPINGS COMPARED

To ensure completeness, the skill groupings identified in STEP 2 were further compared and contrasted with skills clustering of previously published research. Groupings based on the traditional systems development life cycle (e.g. Guimaraes, 1980; Vitalari, 1985) were excluded from these comparisons because as technology evolves, the life cycle itself is likely to undergo change (see section 1.4).

From these comparisons and contrasts, four categories of generic skills were identified:

- clusters identified in table 7.3 and retained as generic groupings;
- cluster names which were not identified in previous steps in this

section, but which were referred to in previous research;

- skill clusters which were identified in the previous steps (see table 7.3) and in prior research, but to which new generic names were given;
- new generic names which were introduced in this research.

(i) CLUSTER NAMES RETAINED FROM PREVIOUS STEP

(a) The ENTERPRISING cluster in table 7.2 was referred to, in part, as PROJECT MANAGEMENT in Crocker (1982, p.95) and this name was retained in this study.

(b) The INVESTIGATIVE cluster (see table 7.2) was unexpectedly missing from Crocker's research, but was referred to as a sub-set of COMPUTERS and ORGANIZATIONS in Nunamaker et al. (1982, p.785). In this study this name was retained.

(ii) CLUSTER NAMES BORROWED FROM PREVIOUS RESEARCH

(a) A group of skills which relate to computational ability were referred to as:

QUANTITATIVE METHODS	Crocker, 1984, p.30
MODELS	Nunamaker et al., 1982, p.785
COMPUTATIONAL	Vitalari, 1985, p.222

These skills were grouped under the generic name COMPUTATIONAL in this research.

(b) PERFORMANCE skills were referred to in Nunamaker et al. (1982, p.785), but specifically not used by Benbasat et al. (1980, p.21). Because these skills (partly referred to in

the CONVENTIONAL cluster in table 7.1) are regarded as central to the effectiveness of a systems analyst, the PERFORMANCE cluster was retained in this study.

(iii) CLUSTERS TO WHICH NEW NAMES WERE GIVEN

(a) The SOCIAL cluster from table 7.1 was referred to, either completely or in part, in previous research as:

SOCIETY	Nunamaker et al., 1982, p.785
PEOPLE	Nunamaker et al., 1982, p.785
SOCIAL	Crocker, 1984, p.95
COMMUNICATION	Crocker, 1984, p.95
ORGANIZATIONS	Nunamaker et al., 1982, p.785
ORGANIZATIONAL	Vitalari, 1985, p.222

To incorporate the shades of meanings from all these sources, it was decided to call this cluster HUMAN ISSUES.

(b) The REALISTIC cluster from table 7.1 was referred to, either completely or in part, in previous research as:

COMPUTERS	Nunamaker et al., 1982, p.785
TECHNICAL	Crocker, 1984, p.95

In this study these groupings were combined under a cluster called SYSTEM ACQUISITION.

(c) A cluster of skills which refer to a systems analyst's skills in general business activities was referred to as:

FINANCE	Crocker, 1982, p.95
ACCOUNTING, FINANCE, ECONOMICS	Vitalari, 1985, p.222

ORGANIZATIONS Nunamaker et al., 1982, p.785

In this study a generic group of skills, called the BUSINESS ACUMEN group, was introduced to include these skills.

(iv) NEW CLUSTERS INTRODUCED

New generic groupings were introduced to incorporate categories of skills referred to in the literature (see chapter 6), but which were not clearly identified in the previous steps. These new clusters were:

(a) The CHANGE AGENT cluster (see e.g. McLeod, 1983, p.545; Capron, 1986, pp.36 and 37; Ostle, 1985, p.57). The manner in which this term was used in the context of this research is further defined in section 7.3.1.2.

(b) A group of skills, which includes quality assurance (Harold, 1983, p.102), post implementation evaluating (Davis and Olson, 1985, p.613) and systems auditing (empirical findings, chapter 5) were combined under a generic cluster called EVALUATIVE skills.

(c) There was strong evidence in the literature to support the idea of the systems analyst of the future fulfilling a consultancy/teaching role (Canning, 1985a; Barr and Kochen, 1984, p.169; Martin, 1982, p.335). The SAVANT cluster was introduced as a generic category under which these skills were grouped.

7.2.2 GENERIC CLUSTERS USED IN THIS STUDY

As a result of these four steps, therefore, the generic groupings listed below were identified and used in this study, (see figure 7.2).

1 BUSINESS ACUMEN
2 CHANGE AGENT
3 COMPUTATIONAL
4 EVALUATIVE
5 HUMAN ISSUES
6 INVESTIGATIVE
7 PERFORMANCE
8 PROJECT MANAGEMENT
9 SAVANT
10 SYSTEM ACQUISITION

7.3 PRESENTING THE FINDINGS OF THIS STUDY

The generic clusters of systems analysis skills identified in section 7.2.2 were used in this research in two ways:

- to compare and contrast the job responsibilities/skills model (chapter 5) and the roles/skills model (chapter 6);
- to build a skills profile of the systems analyst of the future.

7.3.1 A COMPARISON OF THE SKILLS IDENTIFIED IN THE TWO CONCEPTUAL MODELS

One of the research objectives was to compare and contrast opinions identified in the literature with those held by the participants in the empirical study (see section 1.5). This objective was met by

identifying the similarities and differences in the job responsibilities/skills model (section 5.3.2) and the roles/skills model (section 6.3) in terms of the generic skills clusters identified in section 7.2.2. The procedures followed in this section are presented diagrammatically in figure 7.3.

7.3.1.1 BUSINESS ACUMEN CLUSTER

The need for the future systems analyst to have skills in business practices was found in both models (see section 5.3.2.1.2 and 6.3.1.1). If there was any difference between the two sets of skills it was the increased detail in which specific skills are identified in the roles/skills model in chapter 6.

7.3.1.2 CHANGE AGENT/CREATIVITY CLUSTER

Both the literature survey and the empirical research revealed significant evidence that these skills, together with skills in using information and information technology competitively, were required by the future systems analyst (see sections 5.3.2.1.2 and 6.3.1.2).

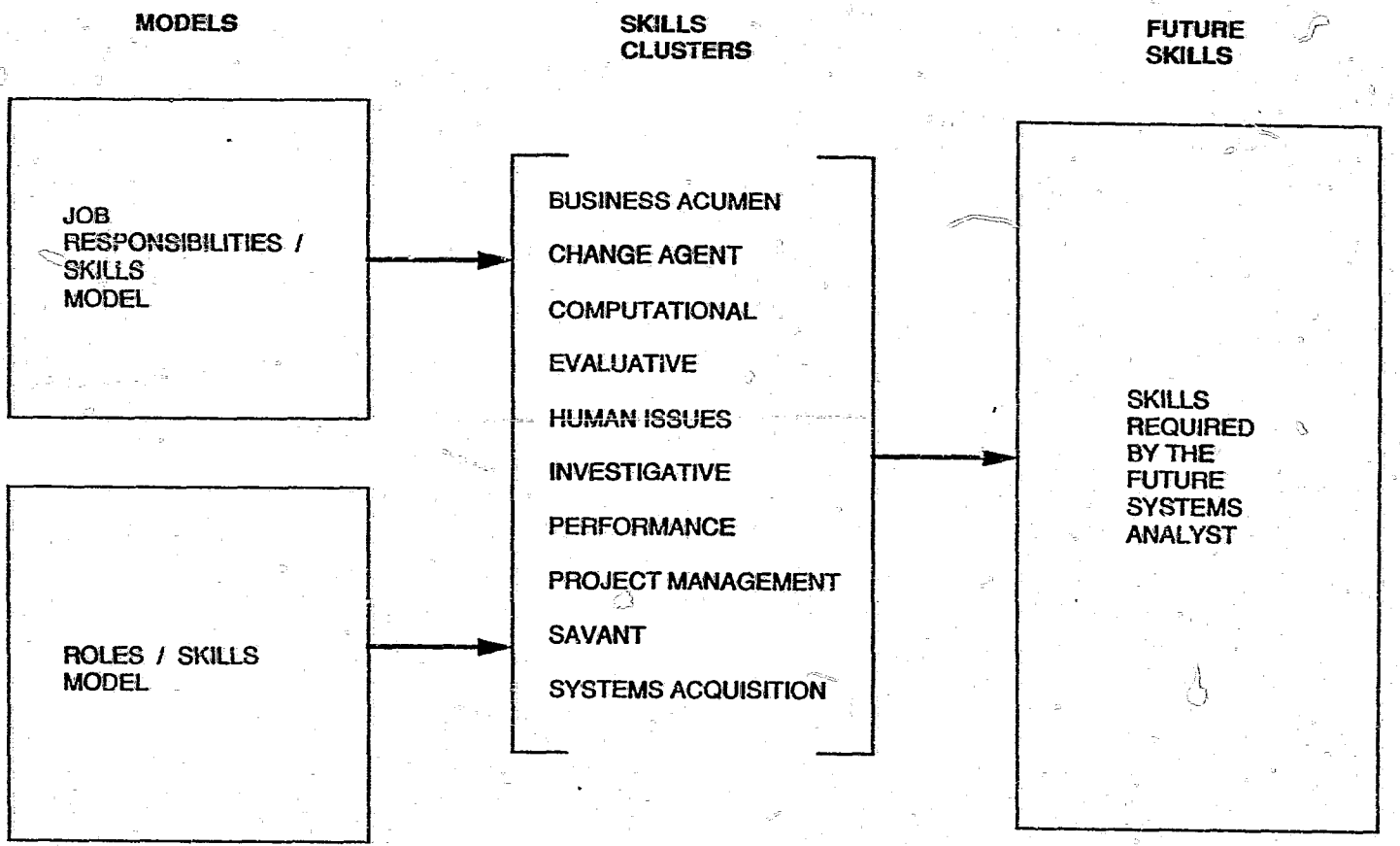

FIGURE 7.3
A comparison of the two conceptual models

7.3.1.3 COMPUTATIONAL CLUSTER

The literature survey revealed that more quantitative techniques skills will be required by the future systems analyst than just skills in statistics (which may be required as part of the empirical job responsibilities/skills model (see sections 5.2.2.2.2 and 6.3.1.14)).

7.3.1.4 EVALUATIVE CLUSTER

The literature survey revealed that the systems analyst of the future will require skills in evaluating implemented application systems (see section 6.3.1.17). The questionnaire respondents also identified the need for evaluative skills (see section 5.3.2.1.3). There were, however, two differences. On one hand the questionnaire respondents' opinions were not as encompassing as those identified in the literature survey. On the other hand, the empirical data included skills at auditing computer-based systems (which was not identified in the literature). Had this audit function not been identified, this cluster of skills could have been confined to quality assurance activities.

7.3.1.5 HUMAN ISSUES CLUSTER

Skills found in both models which could be categorized into this cluster ranged from communicating and teaching, through to enabling/facilitating and working with and through others (see section 5.3.2.1.2 and 6.3.1.12). In this sense, the agreement between the models was high. The differences which were identified could be attributed to the roles/skills model providing a more detailed break-down of required

skills (e.g. the skill of written communicating was expanded into document, record keeping/note taking, report writing and using charting techniques (see section 6.3.1.2)). This detail was not provided by the empirical model.

7.3.1.6 INVESTIGATIVE CLUSTER

Both models provided skills in this cluster which included the expected analytical skills (e.g. fact finding, identifying users' needs, and skills at prototyping (see sections 5.3.2.1 and 6.3.1.1)). There was also agreement that a whole range of strategic planning skills (including using information competitively) would be required by the future systems analyst (see sections 5.3.2.1.3 and 6.3.1.18). This cluster of skills provides one of the clear examples of the changing role of the systems analyst because these investigative skills, within themselves, include more than analytical skills (see section 7.4.2).

7.3.1.7 PERFORMANCE CLUSTER

With the exceptions of problem solving, logical thinking and decision making, the skills in this whole cluster were not included in the opinions of those who provided the empirical data. Perhaps it can be argued (as was argued by Benbasat et al., 1980, p.24) that the importance of these skills is universally accepted. For this reason, however, it was expected that they would be important to those involved in the empirical research and included in their list of requirements for future systems analysis skills (see sections 5.3.2.1.2, 6.3.1.1 and 6.3.1.1.19).

7.3.1.8 PROJECT MANAGEMENT CLUSTER

This was another cluster of skills which suggested that the role of the systems analyst is changing. Both the empirical model (see section 6.3.1.15) and the literature model (see section 5.3.2.1.3) identified these as skills required by the future systems analyst. Another group of skills in the job responsibility/skills model suggested that the systems analyst of the future will require more general management skills. These skills, which were not found directly in the literature, are listed in section 5.3.2.1.3.

7.3.1.19 SAVANT CLUSTER

Some references in the literature to the consulting skills required by the systems analyst of the future are specific (e.g. Barr and Kochen, 1984, p.169 refer specifically to information centre consulting). Other references to consulting skills refer to the systems analyst in a more general advisory or facilitator role (e.g. see section 6.2.3.4). Consultant skills were also recognized by the participants in the empirical study as being necessary for the future systems analyst. This was identified in section 5.3.2.1.1 as part of the systems analysts' user contact responsibilities. Overall, there appeared to be agreement on the need for these skills.

7.3.1.10 SYSTEMS ACQUISITION/TECHNICAL CLUSTER

The idea that a systems analyst should be involved in the development of computer-based systems was not part of the definition of systems analysis (see section 2.1.1.4). Both models built in this research,

however, suggested that this would be part of the systems analysts' future activities (see section 5.3.2.1.3, 6.3.1.10 and 6.3.1.20). It was again noticeable that the detail of the required skills identified in chapter 6 (e.g. designing codes, forms, screens, dialogues) were missing from the job responsibilities/skills model. Although some database activities were identified in the empirical research (see section 5.3.2.1.3), a broader scope of skills were identified as part of the roles/skills model (see section 6.3.1.5). This constituted one of the differences in skills identified in the two models.

7.3.1.11 SUMMARY OF THE COMPARISON OF THE SKILLS IDENTIFIED IN THE TWO CONCEPTUAL MODELS

There was agreement between the two models on the need for specific skills in each of the identified activity clusters. While this did not constitute total agreement, some of the concurrent ideas were significant (particularly in the investigative, project management and system acquisition clusters), because there was agreement on skills which clearly reflect the changing role of the systems analyst.

In some skills groupings (e.g. business acumen, human issues and system acquisition) it was noticeable that the skills identified in the literature survey model tended to be at a more detailed level than those in the empirical model. While this level of detail helped to clarify the responsibilities of the future systems analyst, within these skills clusters there was no evidence that different sets of skills were identified in the models.

Different sets of skills were identified in three clusters.

Firstly, in the computational cluster, the respondents to the questionnaire indicated that skills at statistics may be required by the future systems analyst, while a range of quantitative techniques skills were identified in the literature. Secondly, in the empirical model there was evidence of the requirement for the future systems analyst to have more management skills than the project management skills identified in the literature. Thirdly, in the evaluative skills cluster the ability to audit a computer-based system was, according to the empirical research, a skill requirement for the future systems analyst. The emphasis of the skills identified through the literature survey was confined more to quality control.

The detailed differences in the two models could be identified when the skills profile of the systems analyst of the future was built. This is done in the next section.

7.3.2 SKILLS REQUIRED BY THE SYSTEMS ANALYST OF THE FUTURE

One of the objectives of the research was to build a probable skills profile of the future systems analyst (see section 1.5). This was done by combining the skills identified in the job responsibilities/skills model (chapter 5) with those of the roles/skills model (chapter 6) under the generic skills clusters identified in section 7.2.2. These combined and categorized skills, while helping to identify some of the differences in the two models, actually provided the skills profile of the future systems analyst. This combining activity is represented diagrammatically in figure 7.3

7.3.2.1 BUSINESS ACUMEN CLUSTER (GROUP 1)

There was disagreement between the constituent sub-groups participating in the empirical research on the importance of skills in business practices to the future systems analyst (see section 5.2.2.1.1). This skill, however, was regarded as important by the group as a whole. It was identified as important in the category of skills associated with contact between the future systems analyst and the user (see section 5.3.2.1.1), and the category of general business skills (see section 5.3.2.1.2). The literature survey provided more insight into the details of this skill. The need for the future systems analysts to have skills which will enable them to function effectively in the business environment was identified in both the analyst group (section 6.3.1.1) and the strategic planner group (section 6.3.1.18). By combining these three sources, the skills required in this cluster include:

Forecasting business trends
Introducing new structures in user departments
Skills in accounting/finance/economics
Implementing system procedures
Skills in general business practices
Identifying user functions
Skills in organization and methods
Skills in user department functional area
Working in the user department.

7.3.2.2 CHANGE AGENT/CREATIVE CLUSTER (GROUP 2)

There was also disagreement between the constituent sub-groups who responded to the questionnaire on the significance of change agent skills to the future systems analyst (see section 5.2.2.1). The group as a whole, though, recognized this skill as important to the future systems analyst (see section 5.3.2.1.2). The idea that the systems analyst must function as an agent of change is well documented in the literature (see section 6.3.1.2). The skills required to perform effectively within this role are identified as:

Acting as a change agent

Acting as a catalyst

Combating resistance to change/coping with resentment about change

Confronting

Enforcing

Imposing

Influencing

Innovating

Mediating

Identifying competitive advantages/positions

Identifying the impact of change

Using information competitively

Using information technology strategically.

It is possible that, to perform within the role of a change agent, the future systems analyst may also require skills listed below in the Human Issues cluster (Group 5).

7.3.2.3 COMPUTATIONAL CLUSTER (GROUP 3)

The idea that the future systems analyst should possess numerate skills was suggested in the empirical research (see section 5.2.2.1.5) but found much stronger support in the literature survey (see section 6.3.1.14). The skills required in this cluster were identified as:

Forecast modelling
Mathematical skills
    Mathematics
    Mathematical modelling
Statistics
Simulation skills.

7.3.2.4 EVALUATIVE CLUSTER (GROUP 4)

Skills in the evaluative cluster were identified in both the empirical work and in the literature. Those responding to the questionnaire regarded the skill to build systems which can be audited as essential for the future systems analyst, and suggested that the skill to audit computer systems may be important (see section 5.3.2.1.2). The skills identified in the literature which belong to this group cover auditing, but include other quality assurance, reviewing and evaluating activities (see section 6.3.1.17). The full list of skills in this group include:

Auditing computer-based systems
Determining appropriate system controls
Determining appropriate system security
Developing quality assurance standards/procedures

Evaluating implemented systems

Determining system performance

Ensuring user requirements met

Reviewing applications

Ensuring the security of developed systems.

7.3.2.5 HUMAN ISSUES CLUSTER (GROUP 5)

Some of the skills which belong to this group were regarded as essential by those who participated in the empirical research (e.g. interviewing, report writing and teaching (see section 5.3.2.1.2). Other skills grouped in this cluster (e.g. negotiating, listening and specifying) were identified in the literature survey as part of the communicator group (see section 6.3.1.3). Further skills in this section were identified in the literature survey but were grouped in the interpersonal facilitator cluster (e.g. being diplomatic, co-operating and encouraging). It was found that the skills in this cluster could be categorized into the three sub-clusters of communication skills, interpersonal relationship skills and skills in ergonomics. The following are all the skills identified:

Communicating

Identifying the receivers' frame/register

Interviewing

Negotiating

Preparing presentations

Selling ideas/persuading/gaining acceptance

Using body language

Verbal communicating

Public speaking

Listening

Written communicating

Documenting

Specifying

Report writing

Writing manuals

- operations
- user

Interpersonal skills

Arbitrating

Being patient

Being politically aware

Co-operating

Enhancing

Participating

Skills in relating to people/organizations

Skills in working through others/in a team

Skills in ergonomics.

7.3.2.6 INVESTIGATIVE CLUSTER (GROUP 6)

A large group of skills identified in the empirical study (and grouped in sections 5.3.2.1.1, 5.3.2.1.2 and 5.3.2.1.3) were combined in this cluster, together with the skills from both the Analyst group in section 6.3.1.1 and the Fact finder group in section 6.3.1.8. The resultant

skills groupings cover those skills often associated with the task of systems analysis (see Thierauf, 1986, p.7). In this cluster all these skills are grouped under the headings of analytical skills, fact finding, problem solving, and identifying both corporate and individual system needs.

- Analytical skills/evaluating the existing situation
  - Decomposing tasks
  - Analyzing data flows
  - Identifying/analyzing data elements/information
  - Viewing/defining any situation as a system
- Fact finding/data gathering skills
  - Interviewing/questioning/investigating
  - Observing
  - Searching records/reviewing documents
  - Sampling
  - Using questionnaires
  - Becoming informed
- Problem solving
  - Identifying/recognizing problems
  - Analyzing problems
  - Logical thinking
  - Identifying correct solutions
- Identifying corporate system needs/requirements
  - Strategic planning
  - Using formal procedures (e.g. information engineering)
  - Identifying corporate data requirements

Identifying individual system needs/requirements

Identifying system goals

Identifying user needs

Determining data (sic) requirements

Reconciling user requirements

Determining appropriate controls/security

Determining system feasibility

Cost-benefit analyzing

Risk assessing/risk analyzing

SEE ALSO THE FOLLOWING CLUSTERS

Change agent

Business acumen

Human issues

Savant

7.3.2.7 PERFORMANCE CLUSTER (GROUP 7)

The skills in this cluster, with the exception of logical thinking (see sections 5.3.2.1.2 and 7.3.1.7) all came from the literature survey. Most of the skills (e.g. comprehending, gaining experience and gaining knowledge) came from the Learner group in section 6.3.1.13, and (e.g. attending to detail, being accurate and creative) from the Task performer group in section 6.3.1.21. The complete list of skills required to help the systems analysts of the future perform their technical responsibilities are:

Accepting (e.g. instructions, orders)

Attending to detail

Being accurate

Being creative

Being disciplined/orderly

Being organized

Being self-directed

Comprehending

Decision making

Enhancing own skill

Gaining experience

Keeping records/note taking

Learning/gaining knowledge/remembering/understanding

Thinking logically/deductive reasoning

Working without immediate results

SEE ALSO THE FOLLOWING CLUSTER

Human issues

7.3.2.8 PROJECT MANAGEMENT CLUSTER (GROUP 8)

The participants in the empirical research identified a large number of skills associated with management in general and project management in particular (see section 5.3.2.1.2). They regard these as necessary skills for the systems analyst of the future. Through the literature survey further administrative, task-oriented and people-oriented skills were identified (see section 6.3.1.15). The list of project management skills identified as necessary for the future systems analyst is:

Administering

Allocating work/prioritizing tasks/scheduling

Budgeting

Controlling workers/controlling quality of work/enforcing standards

Co-ordinating work

Critical-path analyzing

Delegating

Developing people's potential

Evaluating subordinates' needs

Forecasting

Initiating/instigating

Leading/directing

Measuring work

- Comparing/Monitoring
- Correcting
- Evaluating/Verifying work
- Reviewing performance

Motivating

Organizing/structuring personnel

Planning

Reporting on systems development

Rewarding/punishing

Setting objectives

Signing off development stages

Skills at charging out for services

SEE ALSO THE FOLLOWING CLUSTERS

- Human issues

Performance.

7.3.2.9 SAVANT CLUSTER (GROUP 9)

There was disagreement among the respondents to the questionnaire on the importance of the consulting role to the future systems analyst (see section 5.2.1.1). The opinion gained from the literature, however, was different. Here a strong case is made for the need of the future systems analyst to fulfill this role (see section 6.3.1.4). Many of the specific skills identified for this cluster, therefore, are drawn from the literature (section 6.3.1.4). To fill the role of a facilitator, advisor or mentor it could be an advantage if the consultant has the wide spectrum of generalist skills (see section 6.3.1.9). In this savant cluster, therefore, the specific skills identified combine those from the Generalist group with those of the Consultant group.

Consulting (e.g. for end user computing)

- Advising
- Enabling
- Encouraging
- Facilitating
- Guiding
- Helping
- Supporting

Evaluating

- Products
- Methodologies



Technology

Keeping abreast of technology

Instructing

Educating

Teaching

Training

SEE ALSO THE FOLLOWING CLUSTERS

Change agent

Evaluation

Human issues

Investigative

Performance

Project Management

System Acquisition.

7.3.2.10 SYSTEMS ACQUISITION (GROUP 10)

There was a suggestion, from the empirical research and the literature survey, that the future systems analyst required a group of technical, non-analytical skills. The respondents to the questionnaire agreed that skills like determining appropriate development methods, designing logical data models and implementing application packages would be necessary for the future systems analyst (see section 5.3.2.1.3). Skills identified in the literature were taken from the Systems designer group (section 6.3.1.20) the Database designer group (section 6.3.1.5), the Prototyper group (section 6.3.1.16), the Implementor group (section 6.3.1.10) and the Developer group (section 6.3.1.6). The skills which

will enable the future systems analyst to design, develop, install and implement both computer-based and manual systems, therefore, include:

Identifying appropriate approach
Building competitive positions
Designing audit/control procedures (audit trails)
Designing user work-flows
Recognizing different world-views
Computer-based systems
Deciding on software acquisition method
Building systems to meet users' needs
Building systems which can be audited
Identifying/using appropriate methodologies
Using appropriate tools
Estimating time/cost/resources
Designing codes
Designing data-flows
Designing inputs/outputs
dialogues
forms
man-machine interfaces
reports
screens
Designing procedures
Designing source documents
Designing system function/conceptual designing

Generating applications

Programming: third generation

Programming: fourth generation

Prototyping: requirements only

Prototyping: whole system

Skills at appropriate design methods

Specifying programs/systems

Structuring algorithms

Using automated development tools

Using charting techniques

Using computer-aided design

Using development work-stations

Using pseudo-code

Acquiring application packages

Evaluating/selecting packages

Tuning purchased software

Implementing packages

Acquiring hardware (communication/processing)

Designing hardware requirements

Evaluating/selecting hardware

Specifying hardware requirements

Determining data requirement

Controlling data redundancy/normalizing data

Designing data structures

Designing/creating files

Ensuring data independence

Ensuring data integrity

Logical data modeling

Separating physical/logical data structures

Using data dictionaries

Providing input to data dictionaries

Working with database administrator

Manual systems

Designing manual procedures

Designing manual systems

Implementing manual systems

Implementing systems

Skills at conversion procedures

Testing systems

Test data designing

Testing developed systems

Implementing appropriate systems

Monitoring systems

Sharing responsibility of system with the users

SEE ALSO THE FOLLOWING CLUSTERS

Change agent

Human issues

Investigative

Evaluative.

7.3.2.11 SUMMARY OF INITIAL FINDINGS

It was found that the two models built during the research could be

combined under ten generic groups of skills which were chosen to be independent of any possible future systems development life cycle. While the skills identified in the empirical research reflected those found through a survey of the literature, these data gave an impression of incompleteness because they were not presented in the same level of detail as the skills identified in the literature. The combined findings, however, provided a comprehensive skills profile of the future systems analyst. This profile can be used to recruit suitable staff, develop relevant education and training programmes, and plan appropriate career paths for future systems analysts.

7.4 COMMENT ON THE INITIAL FINDINGS

Comment on the identification of the skills profile of the systems analyst covers four main issues. These issues are:

- the extent to which the findings can be generalized;
- the appropriateness of the term 'SYSTEMS ANALYST';
- 'SYSTEMS ANALYST' as an INDIVIDUAL or a ROLE in application software development;
- the need for the results to be analyzed further.

7.4.1 THE EXTENT TO WHICH THE FINDING CAN BE GENERALIZED

Questionnaires were not sent to companies with I.S. departments of less than ten employees because it was felt that the nature of systems analysis in the very small environment may be inconsistent with the main thrust of software application development (see section 4.2.3.2). Before the findings of this research can be generalized to include all

systems analysts, further research is required to determine if there are any significant differences between the skills required in the very small and larger I.S. environments (see section 8.3.3).

7.4.2 THE JOB TITLE 'SYSTEMS ANALYST' IS INAPPROPRIATE

Although 10 generic clusters of skills were identified as necessary for the systems analyst of the future, only one of these (the investigative cluster) included analytical skills. This reinforced the concern about the validity of the name 'systems analyst' as an appropriate title for the position (see section 1.3 point iv). It was concluded, therefore, that the job has evolved to the extent that the term 'systems analyst' has become too confining and, therefore, can no longer be regarded as appropriate.

Rather than attempt to identify another single term which incorporates the broad spectrum of identified skills, the lead given by, for example, Jones (1985, p.25); Martin (1982, p.337); Barr and Kochen (1984, p.169) was followed and a new dispensation of job categories is suggested (see section 7.5.2.1). For the moment, therefore, the term 'system analyst' (in inverted commas) will be used.

7.4.3 SKILLS PROFILE FOR A ROLE, NOT AN INDIVIDUAL

Some authors (e.g. Clarke and Prins, 1986, p.34) have written about 'systems analysts' skills' as if they are referring to the skills possessed by, or to be developed in, a single individual. The range of skills identified in this research as necessary for the future 'systems analyst' to function effectively, covers a broad spectrum of activities

(see section 7.3). Some of the skills required are singularly technical (e.g. SYSTEM ACQUISITION CLUSTER (section 7.3.2.10)), others investigative and analytical (e.g. INVESTIGATIVE CLUSTER (section 7.3.2.6)), some are people-orientated (e.g. HUMAN ISSUES CLUSTER (section 7.3.2.5)) others have a strong management bias (e.g. PROJECT MANAGEMENT CLUSTER (section 7.3.2.8)). It seems unlikely that all these skills will be found in an individual. Rather this range of skills is more likely to be the definition of the activities to be performed (perhaps by a number of individuals) to ensure that efficient and effective commercial systems are implemented. It is concluded that the research findings provided the skills profile of the 'systems analysts'' role, rather than the skills profile of an individual 'systems analyst'.

7.4.4 FURTHER ANALYSIS OF THE FINDINGS

One of the objectives of the research was to identify the skills required by the 'systems analyst' of the future (see section 1.5). Early in the research a problem was experienced defining the term 'SYSTEMS ANALYST' (see section 2.1.1.4). Later the term itself was found to be inappropriate and alternatives were suggested (see section 7.4.2). In the previous section in this chapter (section 7.4.3) it was concluded that the skills profile identified in section 7.3 perhaps best describes the skills profile of a future 'systems analysis' function or ROLE, rather than the skills profile of the individual 'systems analyst' of the future (see Meissner, 1986, p.7 and Guimaraes, 1980, p.2). It seemed, therefore, appropriate to analyze the research findings further

in an attempt to identify the possible presence of discreet job categories within this role - an idea suggested by Zmud (1987, p.137).

7.5 ANALYZING THE FINDINGS FURTHER

It is recognized that the design and redesign of existing jobs represents sound management practice, since it leads to more effective utilization of human resources in the meeting of both personal and organizational goals (Peterson and Tracy, 1979, p.85).

The call for the establishment of new job categories (which is the direct result of redesigning existing jobs) particularly within the I.S. development environment is found in the literature (e.g. Martin, 1982, p.337 and Gilb, 1988, p.351). This stage of the research is identified in figure 7.4, in which an attempt is made to redesign the jobs within the systems development activity.

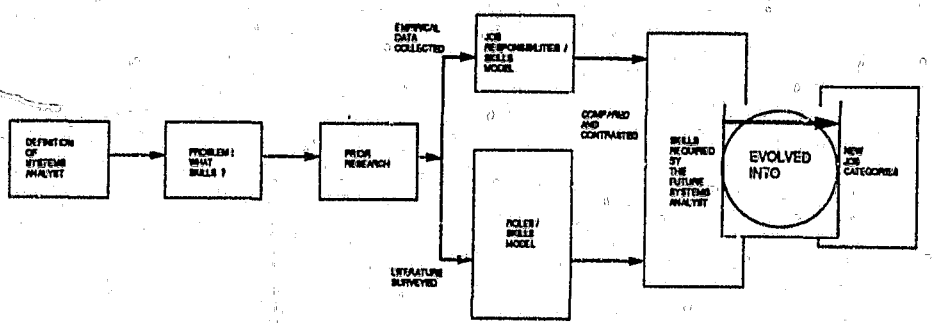

FIGURE 7.4
This stage of the research in context

7.5.1 THE ANALYTICAL PROCESS

The analytical steps taken to identify the new jobs inherent in the skills categories identified in section 7.3.2 were not an attempt at job design through human engineering. These techniques were not followed because it can be claimed that the concept of human engineering is ultimately based on the assumption that work should be explicitly organized to take into account the potentialities and limitations of the workers (Schein, 1970, p.30). Obviously no such approach could be taken in this study.

The process followed in identifying the new dispensation of job categories was based on an idea borrowed from Couger's study of employees' perceptions of their work. He used a model devised by

Hackman and Oldham to measure how I.S. employees to see their jobs, and to determine whether their perceptions of their work differ from those of other employees (Couger, 1978, p.118).

Included in the steps which should be followed to use the Hackman-Oldham model as a job diagnostic survey instrument are:

- a thorough diagnosis,
- forming natural work units,
- combining tasks,
- vertical loading,

(Huse, 1980, p.314).

While this process was followed, the steps required a degree of adaptation to cater for assessing a job role which does not currently exist, but is expected to exist in the future.

7.5.1.1 THOROUGH DIAGNOSIS

This step of the Hackman-Oldham model is used to determine whether motivation and job satisfaction are problems for people employed in a particular position. It was obviously not possible to include this procedure in the analytical process followed in this research.

7.5.1.2 FORMING NATURAL WORK UNITS

The motive behind this step is to attempt to increase the 'ownership' of the task (Huse, 1980, p.315). This is achieved by grouping natural activities together as much as possible. It was found that three of the skills clusters identified in section 7.3.2 could be subdivided to increase task identity.

(i) Evaluation cluster (section 7.3.2.4)

The skills required to ensure that computer-based systems can be audited seemed to form a different work unit from the quality control skills grouped in this cluster. These audit related skills identified tasks which could be described as SYSTEMS AUDITING. Other skills in this cluster were later grouped in the GENERALIST category.

NOTE:

1. It is unlikely that the full responsibility for auditing computer-based systems can fall outside the auditing profession (Weber, 1982, p.82). Consequently, the actual auditing of computer-based application systems is not seen as a function of I.S. industry personnel. Within the I.S. industry, however, there is the need for specialists who will advise on how to develop and implement sophisticated systems which use the evolving technology and which can be audited to the complete satisfaction of the auditing profession.

   (See section 7.3.2, part of Group 4.)

2. A view is held that one of the specialist roles could be that of Quality Assurance (see Harold, 1983, p.102). Because best results appear to be achieved when the people doing the work are ultimately held responsible and accountable for that work - including its quality (see

Allen, 1969, p.113) - the control of the quality of a computer-based system is regarded as the developer's responsibility, and not that of a separate specialist group.

(ii) Investigative cluster (section 7.3.2.6)

A work unit of skills associated with the information engineering activity of identifying corporate information needs was identified in this cluster. This task was called INFORMATION ARCHITECTURE. This investigative role will require skills which will include:

- long-range planning,
- using appropriate methodologies (e.g. information engineering),
- identifying corporate data requirements,
- designing logical databases (logical data modeling).

(See section 7.3.2, part of Group 6.)

Other skills in this cluster were later grouped into the GENERALIST and SAVANT categories (see section 7.5.1.3).

(iii) System acquisition cluster (7.3.2.10)

Two specific tasks were identified in this large group of skills.

Those skills associated with the building of an organization's database appeared to form a separate work unit. This was called the DATABASE specialist group. The skills required for this role will include:

- designing data structures,
- using data dictionaries,

- working with the database administrator,
- using appropriate technology.

A second group of skills were associated with the identifying of user needs. Because of the difficulty in determining individual computer-based system requirements (Jenkins et al., 1984, p.79; Bahl and Hunt, 1984, p.12), it is envisaged that more technological advances will be made in order to enable prototype versions of systems to be built (see section 2.1.2.3.4). The specialist in this area will need a broad range of investigative, systems acquisition and technical skills and could be called a PROTOTYPER.

(See part of sections 7.3.2.6 and 7.3.2.10.)

Other skills in this cluster were later grouped in the GENERALIST and SAVANT categories (see section 7.5.1.3).

7.5.1.3 COMBINING TASKS

Two further work units were identified by combining the skills from multiple categories identified in section 7.3.2. In both cases the job category was suggested in the literature.

(i) THE GENERALIST

The evolution of this position is often referred to in the literature (e.g. Callahan, 1985, p.32; Clarke and Prins, 1986, p.32; Benbasat et al., 1980, p.31). This position was identified by combining the skills from a number of clusters, and so expand the systems analyst's position to include all the

application development activities. Skills were combined from the following groups:

- computational
- evaluative
- investigative
- project management
- systems acquisition.

The following 3 points are noted.

(a) This generalist role is possibly the role into which the current 'analyst-programmer' job will evolve.

(b) The skills profile which the respondents to the questionnaire envisaged (see section 5.3.2) tended towards a generalist category;

(c) Possible names for this generalist position are SYSTEMS DEVELOPER (Smith, 1983), or SYSTEMS BUILDER (Jones, 1985, p.26).

(ii) THE SAVANT SPECIALIST

One of the job categories in the specialist group also has a literature base. It is referred to as:

advisor, mentor (Barr and Kochen, 1984, p.175)

encourager (Martin, 1982, p.334)

system building facilitator (Rivard and Huff, 1985, p.90).

The skills required for this task were drawn from the

investigative, savant and systems acquisition clusters and included:

consulting (e.g. through an information centre)

instructing (both within and outside the I.S. department)

evaluating (e.g. new products and new technology).

(See section 7.3.2.9.)

7.5.1.4 VERTICAL LOADING

The intent of vertical loading is to decrease the gap between the 'doing' and the 'controlling' aspects of a job. This exercise inevitably increases the autonomy of a task (Huse, 1980, p.316). This step strengthened the task identity of the GENERALIST position (see section 7.5.1.3 point (i)).

7.5.2 RESULTS OF THE ANALYSIS

The results of this analysis provided both a new order of job categories in I.S. development and the essential skills required for all the identified generic job clusters.

7.5.2.1 NEW JOB CATEGORIES

The new job categories suggested by this research move away from the traditional titles of programmer, analyst-programmer, systems analyst etc. The following categories are suggested.

GENERALIST (the SYSTEMS DEVELOPER)

SPECIALIST POSITIONS

INFORMATION ARCHITECT

DATABASE SPECIALIST

PROTOTYPER

SAVANT

SYSTEMS AUDITOR.

7.5.2.2 ESSENTIAL SKILLS

Analysis of the initial findings indicated that future development and implementation of commercial computer-based systems will demand a range of skills which will be required irrespective of the particular generic job cluster in which the individual will be working. These essential skills have been identified subjectively and listed in table 7.4. It is suggested that, to be competent in the application development industry, an individual must be capable of developing these skills. Failure to ensure this is likely to lead to unmet expectations for both employer and employee.

TABLE 7.4

Skills essential to any groupings within the role

1. Skills in the BUSINESS ACUMEN cluster
2. CHANGE AGENT/CREATIVE skills
3. Skills in HUMAN ISSUES
   - communication skills
   - interpersonal skills
   - ergonomic skills
4. INVESTIGATIVE skills
   - analytical skills
   - fact finding skills
   - problem solving skills
5. Skills in the PERFORMANCE cluster

7.6 FACTORS WHICH INFLUENCE THE MIX OF SKILLS REQUIRED WITHIN EACH CATEGORY

The exact mix of skills appropriate in a particular set of circumstances is beyond the scope of this research (see section 8.4.3). The following two factors, however, are likely to influence the level of skills required in each job category.

(i) STRATEGIC IMPACT OF THE I.S. ENVIRONMENT AND THE PARTICULAR SYSTEM

The categories of strategic relevance of systems have been identified by Cash et al. (1983, p.27). The emphasis on the skills required to develop systems in each of these environments may need to change to reflect different characteristics of the existing and envisaged systems. Some subjective suggestions are made in table 7.5.

(ii) THE MATURITY OF THE I.S. DEPARTMENT

Although Nolan's Stage Model (Gibson and Nolan, 1974, p.76; Nolan, 1979, p.115) has been questioned (see Lucas and Sutton, 1977, p.254; King and Kraemer, 1984, p.466, Benbasat et al., 1984, p.476), it is fairly widely used to describe the stages of growth through which I.S. departments mature (see Davis and Olson, 1984, p.450; Cushing, 1982, p.298; Dickson and Wetherbe, 1985, p.26; Cash et al., 1983, p.312; Woodruff, 1982, p.11). There seems to be evidence that more and less mature I.S. departments can be identified (see Benbasat et al., 1980, p.23). In the more mature environments the emphasis of computer-based systems development is more likely to include specialist skills (e.g. information

architect, database, prototyper specialists). The generalist skills of the systems developer are likely to be more important than specialist skills in less mature I.S. departments (see Benbasat et al., 1980, p.29).

TABLE 7.5
The emphasis of skills required in the different strategic relevance environments (see Cash et al., 1983, p.27)

ENVIRONMENT	POSSIBLE SPECIALIST EMPHASIS
Support	Savant
Turnaround	Information architect
	Database
	Prototyper
Factory	Savant
	Systems developer
Strategic	Information architect
	Database
	Prototyper
	Savant
	Systems developer

7.7 SUMMARY OF THE CHAPTER

At this stage of the study the research programme was complete. The final conceptual model is presented diagrammatically in figure 7.5. The skills required by the systems analyst of the future were identified by the building of two models (the job responsibilities/skills model described in chapter 5, and the roles/skills model described in chapter 6). To help minimize the probability that required skills had been

overlooked, the findings from building the models were combined (section 7.3.2). To ensure that the skills required by the future systems analyst were not linked to any perceived systems development life cycle, new skills clusters were identified that were linked initially to occupational categories, and expanded from ideas published in the literature (see section 7.2.1). Using Hackman and Oldham's job diagnostic survey instrument as a base, it was found that these skills clusters could be combined into a new dispensation of job categories. These new job categories suggest that there is no future for the traditional systems analyst. Systems developers will be involved in either generalist activities (of building whole systems), or specialist activities (whose exact nature will be situationally dictated). From the final research findings it was possible to identify those skills which will be essential to the future 'systems analysts', irrespective of the job category to which they belong.

The final chapter of the thesis is an attempted evaluation of these findings and an indication of areas where further research is required.

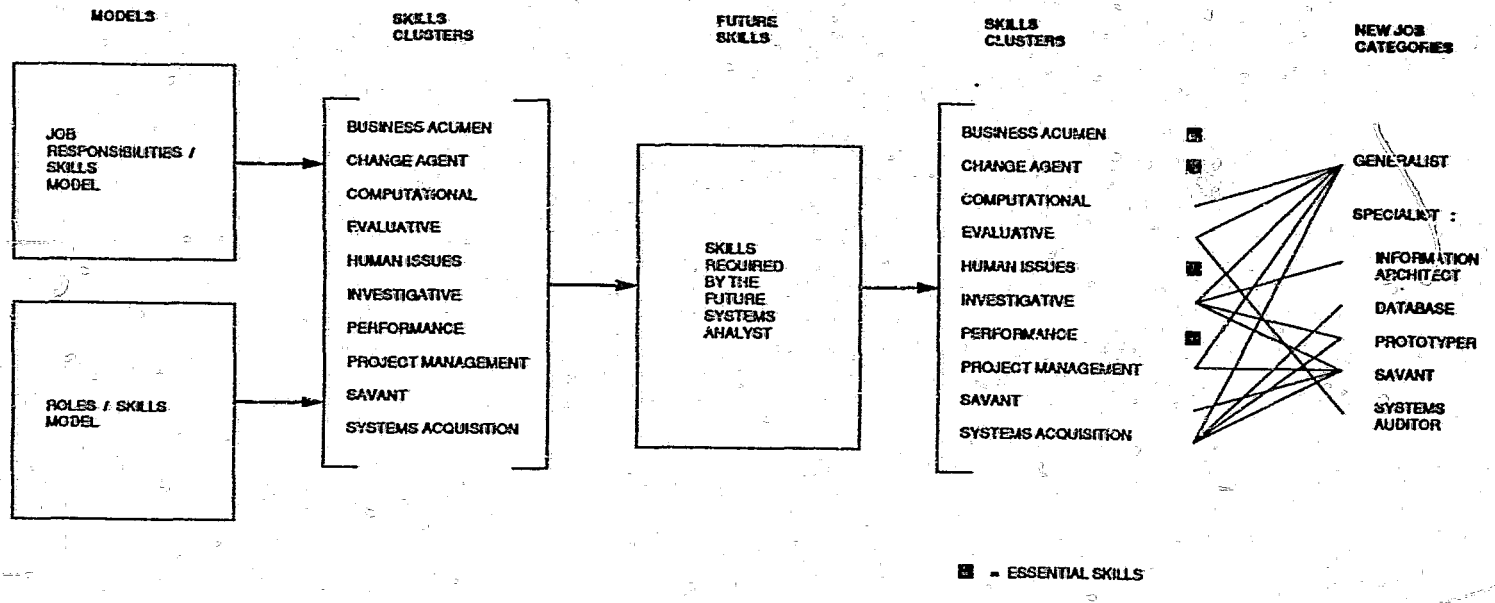

FIGURE 7.5
Final conceptual model

CHAPTER EIGHT

CONCLUSION

There is an expectation that advances in technology, particularly computer technology, will continue to accelerate into the next decade. Organizations which do not exploit these advances place themselves at risk. In the commercial environment the computer and computer-based systems are expected to re-inforce their central position.

It is argued that the 'systems analyst' is the central figure in ensuring that computer technology is used to the benefit of commercial organizations. Unfortunately, however, the accelerating changes in technology have contributed to the 'systems analysts'' environment being in a state of turmoil. This turbulence is such that there is no longer a clear definition of the term. In fact, a case can be made for the claim that the meaning of the term has out-grown its original parameters. Opinions differ significantly on what constitutes an appropriate educational or training programme for the 'systems analyst', and on what can be considered as the correct background or career path for so important a figure. Unless managers resolve these issues, the value of advances in technology may be depleted.

This research assists with solving these problems because it was aimed at identifying the skills required in the future by this key figure in application systems development. Working from the base of these identified skills, appropriate backgrounds and career paths can be identified and suitable recruiting and training programmes for the systems analyst of the future can be designed.

In this chapter a summary is given of the objectives of the

research and the procedures followed during the research programme. The findings of the research are assessed critically, before some hypotheses generated by the research and areas of further research, are identified.

8.1 SUMMARY OF THE RESEARCH

Because of certain limitations which could be identified in earlier research attempts on this, and closely related topics, this research was undertaken with specific characteristics and clearly identifiable objectives.

8.1.1 RESEARCH CHARACTERISTICS

This research was classified as a hypothesis generating field study, which shared characteristics in common with conceptual studies which do not involve either a dependent or an independent variable. Care was taken to ensure that the research, which was focused on the skills required for the systems analyst of the future, was based on both a valid empirical study and a thorough literature survey.

8.1.2 SUMMARY OF RESEARCH OBJECTIVES

The objectives set for the research obviously had to focus on the future, and people's perception of the role of the 'systems analyst' in the future.

The first objective was to attempt to provide a definition of 'systems analyst'. By meeting this objective, both an insight into documented perceptions of this position and a base from which the

changing role of the 'systems analyst' could be identified, was provided.

The second objective of the research was to identify the skills profile of the systems analyst of the future. This profile would provide an indication of the type of person most likely to be effective in this position, what training and education for people preparing to work in the position will be appropriate, and what career paths are likely to be suitable for people in the position.

It was expected that, while trying to meet these objectives, a spectrum of opinions would be identified. The third objective, therefore, was to compare and contrast the opinions (concerning the skills required by the future 'systems analyst') identified in both the empirical research and the literature survey. Included in this analysis was an attempt to identify why differences of opinion do exist.

8.1.3 SUMMARY OF RESEARCH PROCESSES AND FINDINGS

The research programme was based on the construction of two conceptual models. The first model (called the job responsibilities/skills model) was built from the empirical data collected for the research. The second model (called the roles/skills model) was constructed as a result of a literature survey. The findings of the research were based on the combining of these two models.

Building the job responsibilities/skills model

A questionnaire was constructed, using the opinions of a group of experts to provide the dimensions of its questions. This questionnaire

was distributed to a group of practising 'systems analysts'. Replies were received from 159 participants, which constituted a 39,2% response rate.

After ensuring that the opinions of these respondents could be regarded as representative of a population of practising 'systems analysts', the data collected were compared and contrasted to identify areas of disagreement, and areas where no disagreement of respondents' opinions could be identified.

Based on this consensus, the job responsibilities of the 'systems analyst' of the future were identified. The skills required by the 'systems analyst' to perform these job responsibilities were linked to the responsibilities. This combination of opinions was called the job responsibilities/skills model.

Building the roles/skills model

The literature was searched to identify each association which future 'systems analysts' will be expected to have with their environment. The nature of these associations was defined in terms of the roles which 'systems analysts' will have to fill within each of these associations. The skills required to perform effectively within each role were identified. This structural association of roles and skills was called the roles/skills model.

Combining the models

To build the skills profile of the 'systems analyst' of the future, the skills identified by the building of the two models were merged. The

overlapping and redundancies of skills which were obvious from this merger were reduced by grouping the skills into natural activity units. Ten such skills clusters were identified. Some of these clusters (e.g. evaluative skills, investigative skills and systems acquisition skills) were found to relate directly to the 'systems analyst' task. Other clusters (e.g. business acumen, human issues skills and performance skills) were identified as skills which will assist 'systems analysts' to be more effective at their task. A third group of clusters (e.g. computational skills, project management skills and savant skills) were so diverse from the other clusters of task skills that, even at this stage of the research, a new dispensation of job categories for the 'systems analyst' of the future was suggested. Later in the research an attempt was made to identify these new job categories.

Research findings: disagreements

Because the research was aimed at the future, and was based on people's opinion (which would obviously be coloured by their experiences of using technology), a high level of consensus on the issues raised by the research was not expected. It was planned to analyze disagreements in two categories:

- disagreements between the constituent groups who participated in the empirical study;
- disagreements between the findings of the empirical research and the literature survey.

The disagreements identified in the empirical study could be grouped into three types:

(i) Disagreements which reflected a move away from the traditional methods of systems development (e.g. some respondents did not regard skills in structured systems analysis and algorithm structuring as important to the future 'systems analyst');

(ii) Disagreements which indicated that, to some people, the role of the 'systems analyst' is broadening (e.g. some respondents identified skills of determining corporate data requirements and a whole range of project management skills as important to the future 'systems analyst');

(iii) Disagreements which reflected a failure to recognize the significance of certain 'systems analyst' skills and, therefore, which should be the source of concern for the members of the South African computer industry (e.g. some respondents did not regard skills in business practices or interpersonal relationship skills as important to the future 'systems analyst').

Research findings: no evidence of disagreement

From the areas of where no areas of disagreement could be identified when the job responsibilities/skills model and roles/skills model were combined, the following conclusions were reached:

(i) The range of skills demanded from the 'systems analyst' of the future will be such that it is unlikely they will be found in a single individual. This conclusion supported the view of Martin (see section 2.2.1.2.1) that the term describes a role rather than a person.

(ii) The skills identified as necessary for those involved in future

application systems development, can be grouped into a new dispensation of job categories:

- One of these categories will demand a wide range of generalist skills which makes the name 'SYSTEMS ANALYST' too restrictive. This category could be given a new job title of either

  SYSTEM BUILDER or

  SYSTEM DEVELOPER.

- The other broad job category can be sub-divided into a number of specialist activities. These activities may, or may not be the responsibility of single individuals. The specializations identified in this research were:

  THE SAVANT SPECIALIST - an evaluator who instructs and consults.

  THE INFORMATION ARCHITECT SPECIALIST - a long-range planner who identifies corporate data requirements.

  THE DATABASE SPECIALIST - a technician who ensures that the source of information required by a company is in place.

  THE PROTOTYPER SPECIALIST - an investigator and problem-solver who builds working models to identify user requirements.

  THE AUDIT SPECIALIST - an advisor who enables sophisticated systems to be built in such a way that they can be audited.

  (NOTE: While there may be cases where similar job titles are used by individual organisations, it is concluded that this usage is not wide-spread. None of these

titles is found among the commonly used categories identified in the annual salary survey of the I.S. industry, conducted by the Remuneration Services Division of P-E Corporate Services (see P-E, 1989).)

It was also concluded that the supportive skills required for all job categories include skills to function effectively in the business environment, skills to introduce change into a business environment, skills at working productively with other people and skills at motivating and controlling personal performance. People without the potential to develop these skills should not be recruited into the discipline.

8.2 EVALUATION OF THE RESEARCH

The research is evaluated from two perspectives. Firstly, the extent to which the research has made a contribution to knowledge is assessed and, secondly, the limitations of the research are identified.

8.2.1 EXTENT TO WHICH THE RESEARCH MADE A CONTRIBUTION TO KNOWLEDGE

The contribution which this research has made to knowledge is given against the background of the turbulence in the 'systems analysts'' environment. In this section the problems which motivated the research are summarized, an assessment is given of the extent to which the research met its objectives and the value of the analysis done beyond meeting these objectives is assessed.

8.2.1.1 THE TURBULENT ENVIRONMENT

A combination of changes forced by technological advancements and user expectation from computer based information systems have placed the 'systems analysts'' environment into a state of turmoil.

The increased sophistication of hardware and software have led directly to the possibility of new application development methods (e.g. fourth generation languages, prototyping and end user computing). These new methods threaten to make the traditional systems development life cycle obsolete. The more powerful development tools enable more complex and refined systems to be built.

The users of computer-based systems have increased their demands for application, not just in number but also in complexity (see section 2.1.2.3.3).

At the centre of this turbulence is the 'systems analyst' (whose responsibility it is to use technology to meet users' needs). In this research the question was asked whether these changes are influencing the 'systems analysts'' role to the extent that they demand new skills, new training and education, new background experience and new career-paths for this position. In fact, these changes may be so dramatic that unless some indication of their consequences is identified, inappropriate skills will be sought in those being recruited into the 'systems analysts'' discipline. The best use of the power of computer-based technology will only be ensured if the role of the 'systems analyst' moves away from the activities which characterized third generation computing.

This research is aimed at identifying this changing role, and the skills required to function effectively in the new environment.

8.2.1.2 EXTENT TO WHICH RESEARCH MET ITS OBJECTIVES

It is acknowledge that the meeting of research objectives does not necessarily mean that the research has made a contribution to knowledge. This claim is made here because, in each case, the objectives for this research were to identify specific groups of information, which had not previously been published. In general terms, therefore, provided the objectives were met, the research made a contribution to knowledge.

The four objectives of the research were set in an attempt to identify the skills required for the changing role of the 'systems' analyst'. In this section an assessment is given on the extent to which these objectives were met.

OBJECTIVE 1 (Provide a clear definition of 'systems analyst')

This objective was met in two ways:

(i) After a summary of the literature definitions of a 'systems analyst' was given in table 2.1, a definition of the term was suggested in section 2.1.1.4.

(ii) In the context of the research, though, a more important step was to identify the activities which form the basis of the role of the 'systems analyst' of the future. This was done in section 7.3.2. By identifying these roles, which define the 'systems analyst' of the future, it became clear that the term 'systems analyst' has

expanded beyond its origin meaning. In fact, in some areas these roles were so different from the definition provided in section 2.1.1.4 that they offered support for Martin's contention that the job of the 'systems analyst' will change completely. This assertion laid the foundation for the suggestion that the title 'systems analyst' is no longer appropriate.

OBJECTIVE 2 (Provide a skills profile of the 'systems analyst' of the future)

This objective was met by combining the skills identified by building the job responsibilities/skills model (chapter 5) and the roles/skills model (chapter 6). The skills which form this profile were not presented in clusters based on the traditional systems development life cycle, because there is evidence that the evolving technology will make that life cycle obsolete. The skills required by the systems analyst of the future were presented in section 7.3.2 in clusters identified in the literature and supported by a factor analysis of the empirical data. (The ten skills clusters were business acumen skills, change agent skills, computational skills, evaluative skills, human issue skills, investigative skills, performance skills, project management skills, savant skills and skills in system acquisition).

OBJECTIVE 3 (Compare and contrast the opinions of the participants in the empirical study)

Analysis of variance statistics were used to compare the opinions of the three constituent groups of respondents to the questionnaire (the

practitioner experts, the academics and the practising systems analysts). These comparisons revealed disagreements covering a broad range of activities. The one group of disagreements (e.g. project management, implementation responsibilities and the use of traditional development methods) could be attributed to different perceptions among the respondents of the future role of the systems analyst. The other group of disagreements, however, included skills which have been regarded as central to the 'systems analyst' task (e.g. skills in business practices, change agent skills and interpersonal relationship skills). Managers in the South African computer industry need to note these opinions to ensure they are not contributing to ineffective or unsuitable systems development (see section 5.2.2.1).

OBJECTIVE 4 (Compare and contrast the opinions identified through the empirical research with those identified in the literature survey)
To meet the previous objective, the data collected in response to the questionnaire were processed in groups (see section 5.2.1). The empirical data were processed as a whole to meet this objective (see sections 7.3.1 and 7.3.2). The skills identified by processing all the empirical data were compared with the skills identified in the literature survey. This comparison did not reveal total agreement. The findings of the literature survey indicated the need for more detailed, and sometimes specialist skills (e.g. specialist prototyping skills or specialist quality assurance skills), the empirical research identified the need for skills which seemed more appropriate for a generalist role (e.g. building whole systems). In spite of these

disagreements, however, there was a clear indication from this comparison that the role of the 'systems analyst' is changing (particularly in the areas of certain investigative, management and system acquisition skills).

8.2.1.3 VALUE OF THE RESEARCH BEYOND MEETINGS ITS SPECIFIC OBJECTIVES

The research made further contributions to knowledge in two areas:

(i) The task of the 'systems analyst', which is more likely to be associated with a role than with an individual, can be sub-divided into generic clusters (see section 7.2.2). The clusters identified in this research, are totally independent of any present or future systems development life cycle.

(ii) Because the skills identified in the research as being necessary for the future 'systems analyst' are not likely to be found in single individuals, a new range of job categories in systems development is suggested. Using the clusters of skills which are independent of a systems development life cycle as a base, new job titles, which are appropriate for this changing role, have been suggested. These job titles reflect the nature of the tasks to be performed and the skills required to perform these tasks (see section 7.5.2.1).

8.2.2 IDENTIFIED LIMITATIONS IN THE RESEARCH

All the limitations listed below have been discussed in detail earlier in the thesis. This summary is divided into three sections:

- limitations in the empirical research,
- limitations in the literature survey,
- limitations inherent in the approach taken to conduct this research.

(i) THE EMPIRICAL RESEARCH

The limitations of the research in respect of collecting and analyzing the empirical data are detailed in section 4.3.3. These limitations can be summarized as:

- there was evidence that the sample population was suffering from survey saturation;
- the exact sample population was not known, consequently each questionnaire had to be distributed through a third person and attempts to follow-up directly on determining the opinions of non-respondents were abandoned;
- the use of questionnaires as the method to collect the respondents' opinions brought with it inherent weaknesses concerning the reliability and validity of the measuring instrument;
- it could not be established whether the respondents' opinions had been influenced by their having recently experienced some significant technological enhancement in their work environment;
- the sample population specifically excluded small (less than 10 personnel) I.S. departments;
- the skills identified by approaching the experts were not

modified by those identified in the literature, prior to the questionnaire being distributed to the sample population of 'systems analysts';

- some respondents showed signs of not having a clear understanding of some of the jargon used in the research;
- through limited information being made public, 'systems analysts' working for the large government and semi-government installations were excluded from the sample population.

(ii) THE LITERATURE SURVEY

In section 6.4 the limitations of collecting information through surveying the literature, were detailed. A summary of these limitations is provided below:

- only a small portion of the literature which could be identified was aimed specifically at identifying the skills for the 'systems analyst' of the future;
- it was difficult to ascertain from the literature the exact importance of the skills identified to the future 'systems analyst';
- skills comparisons and contrasts were difficult because some of the skills identified in the literature were specific and detailed, while others were composite in nature;
- the meaning of some of the documented skills was unclear;
- it was not possible to reconcile some of the sharp differences of opinion identified in the literature.

(iii) THE RESEARCH APPROACH

The limitations of this research inherent in the approach taken in the research programme are detailed in section 3.5. The main issues are summarized as follows:

- none of the skills identified by either the empirical research or the literature survey were confirmed through observation;
- no attempt was made to determine how a 'systems analyst' who would be rated as 'good', would use the identified skills;
- building skills profiles using generic groupings can be open to subjective influence and influence and interpretation;
- the nature of the environment being researched was such that some significant technological advance could invalidate the research, or sharply compress the timescale involved.

8.2.3 SUMMARY OF THE VALUE OF THE RESEARCH

In spite of the limitations associated with the approach taken, it was shown that the research objectives were met (see section 8.2.1.2). Each stage of the research process was planned, substantiated, carefully executed and the results were critically evaluated. There was sufficient evidence to support the claim that the research has made a contribution to knowledge (see section 8.2.1). The value of the research to the I.S. industry can be summarized under the following headings:

(i) STAFF SELECTION

The findings of this study give a clear picture of the functions to be performed by those involved in either generalist or specialist activities of future application development (see section 7.3.2). This information will enable staff selection procedures to be designed to avoid employing people who cannot adapt to the changing environment. Without making these adaptations, the evolving computer-based technology may not be used to its full potential.

(ii) EDUCATION AND TRAINING

Through this study the skills which will be essential to whatever function an individual may perform within the role of application systems development have been identified (see table 6.3). Knowing that these skills are necessary for a career in I.S. development provides a goal for curriculum design for both the academic sector and industry training establishments. Education or training which excludes meeting these goals may be of limited value.

(iii) CAREER PATH TRAINING

The results of this research provide the practitioner with two pointers vital to career path planning in the I.S. environment:

- firstly, they provide an indication of the type of background and experience which will be suitable for I.S.

staff who will be effective application developers;

- secondly, they help direct planning on how I.S. personnel can best prepare for the future, and progress within their discipline as effective application developers.

(iv) STAFF LOYALTY

Because of the importance of business skills to the I.S. developer of the future, it is likely that staff will develop a loyalty, if not to an individual company, at least to an industry sector (rather than primarily to the computer industry). The careful planning of career paths for I.S. personnel will help to sustain this loyalty.

8.3 HYPOTHESES GENERATED BY THIS RESEARCH

This research was classified as a hypothesis generating field study (see section 3.2.3.3). The hypotheses identified in this section were those identified as a direct consequence of this research (other hypotheses are included in the section on further research suggested by this study (see section 8.4)).

8.3.1 HYPOTHESIS ON APTITUDE TESTING

There is a need to test whether positive links exist between commonly used aptitude tests for entrance into the computer industry (e.g. Burroughs Computer Programming Selection Test, ICL Programmer Aptitude Test, IBM Programming Aptitude Test) and the nature of the evolving systems development job. It may be that some (or all) of these tests

are attempting to measure inappropriate competencies and characteristics.

HYPOTHESIS:

The aptitude tests commonly used to measure the competencies required by the computer industry do not test for those competencies required by the future I.S. developer.

8.3.2 HYPOTHESIS ON THE PERSONALITY PROFILE OF THE SYSTEMS DEVELOPER

The need for interpersonal relationship skills (see section 7.3.2.5) and change agent skills (see section 7.3.2.2) were found to be essential skills to the future systems developer (see section 7.5.2.2). These findings suggest that the social need strength of systems developers will need to be higher than those found in Cougers' study of the 1970s (Couger, 1978, p.122). It may no longer be appropriate to call systems developers 'loners'.

HYPOTHESIS:

There is no difference in the social needs strengths of systems developers and the social needs strengths of other professionals.

8.3.3 HYPOTHESIS ON SMALL I.S. DEPARTMENTS

Small I.S. departments (i.e. less than ten employees) were specifically excluded from the sample population for this research. Before the findings of this research can be generalized to include all application

systems developers, it must be established if the assumption is correct that the nature of the work done in the small installations is inconsistent with the main thrust of I.S. activity.

HYPOTHESIS:

Skills required in the future by systems developers in small (less than ten employees) I.S. departments are the same as those required by the systems developers in larger I.S. departments.

8.3.4 HYPOTHESIS ON THE FUTURE OF PROGRAMMERS

One of the skills categories identified in this research as required by the systems analyst of the future related to the acquisition (and development) of computer-based systems (see section 7.3.2.10). These skills included building systems to meet users needs (e.g. using appropriate tools, structuring algorithms, prototyping and programming). If these skills are required for the 'systems analyst', or one or more of the new job categories identified in section 7.5.2.1, there may not need to be a programming role in future I.S. departments.

HYPOTHESIS:

There is no role in the future development of information systems for the programmer.

8.3.5 HYPOTHESIS ON JOB TITLES

It was found in this research (see section 7.4.2) that the range of skills required by the 'systems analyst' of the future cover such a

broad spectrum of activities that they could be grouped into 10 clusters (see section 7.3.2). Only one of these clusters (the investigative cluster) included analytical skills. Unless the job title SYSTEMS ANALYST be dropped, therefore, it will be used to describe a position of which analysis is a relatively small (although, unquestionably, an important) part.

HYPOTHESIS:

The continued use of the job title SYSTEMS ANALYST will lead to false expectations from both incumbents and managers of the position.

8.3.6 HYPOTHESIS ON IMPROVED JOB SATISFACTION

If new jobs are introduced into the I.S. environment to enable the increased sophistication of technological advances to be exploited, these new jobs are likely to bring increased satisfaction to the incumbents. This increased satisfaction should lead to greater productivity and possibly even the implementation of better computer-based systems. It is, therefore, important to know if the changes suggested in this research will be appreciated by the systems builders of the future.

HYPOTHESIS:

The new job categories identified in this research improve the output indices of factors such as job satisfaction, turnover, absenteeism, grievances, quality of work and productivity.

8.3.7 HYPOTHESIS ON EMERGING I.S. DISCIPLINE

In their 1986 research Culnan and Swanson attempted to plot the progress of MIS between 1980 and 1984 as a scholarly field of study (Culnan and Swanson, 1986, pp.289-301). Their conclusion was that MIS is emerging as a distinct discipline with its own cumulative tradition. They could not assume, however, that this distinctiveness would similarly reflect a growing consensus of published articles.

> 'In fact, the opposite may prevail. As MIS becomes more established, it may instead tend to fractionate from its foundational base.' (Culnan and Swanson, 1986, p.301).

It may be that the envisaged change from a single job category of 'systems analyst' to multiple job categories spanning both generalist and specialist activities supports the contention that as the MIS discipline matures, so a fragmentation of interests and activities can be expected.

HYPOTHESIS:

The fragmentation of the 'systems analysts'' job is a reflection of a maturing I.S. industry.

8.4 FURTHER RESEARCH

This research was seen as one further stage in the building of a base of knowledge concerning the development and implementation of computer-based application systems. It drew significantly on the literature and was based on the findings of prior research in the area. As a result of its findings, therefore, it was inevitable that further

areas of research could be identified. Where appropriate, hypotheses relating to the further research topics have been identified.

8.4.1 REPEAT THE SURVEY

It is suggested that within the next five to eight years this research should be repeated using the same questionnaire as a measuring instrument. This repeat research programme will:

- help confirm the nature of the system building activity;
- provide further input to decisions on personnel selection, education and training in the application development industry;
- enable the processes used in this research to be tested for reliability and validity.

8.4.2 IDENTIFY WHAT MAKES A GOOD SYSTEMS DEVELOPER

Establishing the skills profile of the systems developer of the future is an important foundation for further research (see section 1.7). Research programmes will provide the I.S. industry with more significant results, however, if they can establish what underlying behaviours are required for effective performance from application development personnel.

HYPOTHESES:

(i) The factors which characterize a good systems developer can be defined.

(ii) The factors which influence the productivity of the systems developers of the future can be identified.

8.4.3 ESTABLISH APPROPRIATE SKILLS MIXES FOR DIFFERENT WORK ENVIRONMENTS

It is possible to identify different maturity levels and systems characteristics in I.S. departments (see section 7.6). It needs to be established whether different skills mixes from I.S. application development personnel are needed for each of these environments.

HYPOTHESES:

(i) There is a direct relationship between the maturity of the I.S. department and the specific skills mix required by the systems developers who will be effective in that department.

(ii) The more mature the I.S. department the more business skills are required by the system developer to be effective in that department.

(iii) The more mature the I.S. department the less likely the score on the commonly used aptitude tests is to reflect appropriate competencies for the systems developer to be effective in that department.

(iv) The skills mix required for the systems developer to be effective in each category of I.S. department as identified by Cash et al. (factory, strategic, support, turnaround) is unique.

8.4.4 THE IMPACT OF CULTURE AND LANGUAGE ON EFFECTIVE PERFORMANCE IN THE I.S. INDUSTRY

Many countries, like South Africa, have populations with multiple cultural and language backgrounds. Research is needed to establish:

(i) whether people who do not speak English as their home language or do not have a First-world cultural background, are in any way disadvantaged when following careers in the technical I.S. environment;

(ii) the nature and detail of the educational and training programmes needed to compensate for these differences, if they are identified as disadvantages.

HYPOTHESES:

(i) The cultural background of systems developers has a direct effect on their performance in the implementation of information systems.

(ii) People with a disadvantaged secondary school education are less effective as system developers.

(iii) People with an African language as their home language are less effective as systems developers than people with English as a home language.

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Date:

Dear Colleague

I am currently involved in a research programme to explore the changing role of the System Analyst in the commercial application development industry in South Africa. As part of the foundation of this research I seek the opinions of a small group of leading academics on the subject. I write to you to ask if you will assist me by participating in one stage of the programme.

The expense and logistics of getting you together as a group to identify a group opinion force me to choose to gather opinions at a distance. (This approach has the added advantages of anonymous reponses and a possible iteration through the process.)

I envisage that the procedure will have two cycles:

Cycle One - Attached to this letter are a group of definitions, a sample job description and a set of open-ended questions. I ask if you will help by please answering the questions. By their nature, these questions preclude any exact answers, so each person's opinion is valuable.

Cycle Two - Once the replies to these questions have been received and collated, the findings of Cycle One will be circulated back to all participants. This will provide you with the opportunity to assess the reponses of others taking part in the programme. In the context of this added information you may still support your original estimates, but you will be given the opportunity, if you wish, to revise your opinions.

The final set of opinions will be used to construct a questionnaire which will be circulated to a large number of practising Systems Analysts, to assess how they predict their future role in application development.

To help maintain the momentum of the research, please will you send your reply to me (using the enclosed addressed envelope) by 30 September 1985.

The University of the Witwatersrand rejects racism and racial segregation. It is committed to non-discrimination particularly in the constitution of its student body, in the selection and promotion of its staff, and in its administration.

Obviously I will be publishing my findings, but if you have a particular interest in this area, let me know and I will be pleased to send intermediate results to you.

In anticipation I thank you for your assistance both in terms of your time and your opinions.

Yours sincerely

PROFESSOR TREVOR D. CROSSMAN
(HEAD: DIVISION OF BIS)

ATTACHMENT TO SURVEY QUESTIONS

1. DEFINITIONS

THE FUTURE - between 5 and 8 years from now.

SKILL - the ability to perform specialized work with recognized proficiency.

2. SYSTEMS ANALYST JOB ACTIVITIES

The systems analyst gathers data for analysis of user applications and/or problem areas in order to design and develop new applications or to modify existing applications. In this capacity, the systems analyst:

ANALYZES the workflow, forms, files, reports, controls, organizational policies and practices, hardware, software, existing documentation and other applications affecting the application under study;

DOCUMENTS existing operations and procedures and evaluates them to determine the operational effectiveness of the existing application and if an alternate approach is necessary;

DESIGNS new or modified approaches that are technically, economically, and operationally feasible;

PREPARES the necessary flowcharts, structure charts, decision tables, program specifications, systems test data and plans, user procedures, convertion requirements, time schedules, and cost/savings estimates for new or revised applications;

DEVELOPS the necessary interfaces between data processing and user organizations;

MONITORS the development and implementation process;

CONDUCTS follow-up sessions to evaluate the effectiveness of recently implemented or revised applications, and prepares project activity reports for the upper echelon and steering committee.

QUESTIONS FOR ACADEMIC EXPERTS

Attached to these questions are:

- a definition of the FUTURE;
- a definition of the SKILL;
- a list of SYSTEMS ANALYST job activities.

1. What methods of application software development do you expect will be included in your syllabus in the future?

2. Using the attached job activities as a guide, what do you think a systems analysts job responsibilities will be in the future?

3. In your opinion, what specific skills will be required from a systems analyst involved in future commercial application systems development?

QUESTIONS FOR PRACTITIONER EXPERTS

Attached to these questions are:

- a definition of the FUTURE;
- a definition of the SKILL;
- a list of SYSTEMS ANALYST job activities.

1. What methods of application software development do you expect to be introduced into your organisation in the future?

2. Using the attached job activities as a guide, what do you think a systems analysts job responsibilities will be in the future?

3. In your opinion, what specific skills will be required from a systems analyst involved in future commercial application systems development?

QUESTIONNAIRE TO EXPERTS

SECTION 1

In your opinion, how important are the following tools and methods for future application development?

	VERY IMPORTANT				NOT IMPORTANT
Programming languages					
COBOL	7	6	9	8	1
PASCAL			7	7	16
BASIC	1	1	6	12	11
ADA	3	1	5	6	15
Databases					
Integrated Databases	21	6	5		
Data Dictionaries	24	8			
Automated Development Tools					
CAD (e.g. to document work-flows)	8	7	9	4	3
Interactive Screen Design	23	9			
Interactive Report Design	23	9			
Program/System Generators	21	6	1	4	
Application Packages					
Implementation of Application Packages	9	14	5	3	1
Customizing Application Packages	6	15	8	2	1
Fourth Generation Techniques					
Fourth Generation Languages	25	5	2		
Prototyping	22	7	2		1

	VERY IMPORTANT				NOT IMPORTANT
User Involvement					
Information Centres	15	6	8	3	
End User Development	11	9	11	1	
User Representatives on Project Teams	23	6	2	1	
The Traditional Development Life Cycle					
Without Prototyping		6	8	11	6
With Prototyping	9	12	7	1	2
Developing Business Specifications	7	13	10	1	
Systems Evaluation using "Pilot" Projects	3	11	11	4	
Development Work-Stations					
Programmable Terminals	7	8	10	6	
Personal Computers with Mainframe Link	16	12	2	1	1
Development Centres					
Information System Staff Only	2	8	12	7	3
Information System Staff and Users	11	12	5	3	1
Centralization					
Strategic Information Systems Planning	16	10	6		
Standards Enforcement	11	12	8	1	
Centralized Project Control	3	10	14	3	2
Others (Please Specify)					
2PG II		1			
Tuning Aids	1				
Artificial Intelligence Softwares	1				

	VERY IMPORTANT				NOT IMPORTANT
Others (Please Specify)					
..... Common Work-stations		2			
..... Functional Databases		1			
..... Relational Databases	1				
Distributed Databases			1		

OTHER ISSUES RAISED WERE EITHER NOT DEVELOPMENT METHODS \ TOOLS, OR HAD BEEN MENTIONED ELSEWHERE.

SECTION 2

Consider the systems analyst's job responsibilities in the future. How important, in your opinion, will each of the following activities be?

	VERY IMPORTANT			NOT IMPORTANT	
Analysis					
Using Formal Analysis Procedures	4	13	12	2	
Cost Analyzing Systems	7	13	9	2	
Identifying Work-flows and Procedures	11	8	11	1	
Conducting Feasibility Studies	6	14	7	2	2
Identifying User Requirements	22	5	3	1	
Formally Documenting User Needs	6	8	12	4	1
Producing Detailed Specifications	2	8	12	7	2
Understanding Systems Interdependence	14	12	5		
Problem Solving	12	16	3		
Systems Development					
Indentifying Appropriate Development Methods	12	15	2	3	
Designing Systems	14	10	7	1	
Generating Systems	6	14	9	1	1
Traditional Programming		3	6	12	11
Prototyping Systems	15	9	6	2	
Building Whole Systems	8	13	8	3	
Tuning Generated Systems	8	7	9	5	3
Integrating New and Existing Systems	11	16	5		

	VERY IMPORTANT				NOT IMPORTANT
Project Management					
Planning Systems Development	15	14	2	1	
Monitoring Systems Development	15	11	4	2	
Controlling Systems Development	13	11	6	2	
Evaluating Systems Development	10	12	9	1	
Reporting on Systems Development	9	14	6	3	
Evaluting Performance of Systems Developers	8	12	8	2	2
Application Packages					
Selecting Packages	11	9	9	2	1
Implementing Packages	6	11	9	6	
User Contact					
Working in User Department	10	7	10	4	1
Increasing Business Knowledge	21	10	1		
Becoming the User	3	8	6	14	1
Sharing Responsibility for System with User	10	10	11	1	
Training Users	13	10	8	1	
Acting as a Consultant	15	8	8		1
Technology					
Understanding Information Technology	17	11	4		
Keeping Abreast with Technology	14	12	6		
Revising Standards for Development Methods	11	10	7	3	1

	VERY IMPORTANT				NOT IMPORTANT
Others (Please Specify)					
.....					
.....					
.....					

OTHER ISSUES RAISED WERE EITHER NOT JOB RESPONSIBILITIES, OR HAD BEEN MENTIONED ELSEWHERE.

SECTION 3

In your opinion, to what extent are each of the following skills required by a systems analyst in the future?

	NOT REQUIRED		COULD BE REQUIRED		DEFINATELY REQUIRED
Development Centre Tools/Methods					
Determining Appropriate Development Methods		1	6	15	10
Determining Appropriate System Controls			6	9	17
Determining Appropriate System Security			5	8	19
Evaluting Software Packages		4	5	15	8
Using Structured Analysis Methods		2	10	15	5
Using Automated Systems Development Methods			3	12	17
Using Prototyping Techniques		1	4	9	18
Using Techniques Associated with Databases			2	6	24
Applying Information Technology	1		5	8	17
Project Management					
Project Planning		1	7	8	16
Project Controlling		1	9	9	13
Progress Monitoring			8	10	14
Scheduling		3	8	8	13
Estimating Timescales		1	7	11	13
Critical Path Analysis	2	7	9	6	8
Decision Making		1	9	13	9

	NOT REQUIRED	COULD BE REQUIRED		DEFINATELY REQUIRED
Finance				
Cost Estimating		1	9	13	9
Cost/Benefit Analysis	2	1	10	11	8
Costing	2		13	8	8
Auditing Computer Systems	2	4	11	9	6
Quantitative Methods					
Statistics	2	7	12	5	5
Social					
Working In and With a Team			1	7	24
Dealing with People				6	26
Being Diplomatic		1	4	9	18
Hardware					
Designing Installation Configurations	6	5	15	7	1
Designing Computer Networks	7	7	11	4	3
Using Computer Networks		3	11	12	6
Determining Telecommunication Requirements	4	4	14	6	4
Software					
Constructing Algorithms	4	8	15	4	1
COBOL Programming	12	3	9	7	2
FORTRAN Programming	18	5	6	3	
Implementing Applications Packages	1	1	12	9	9
ADA Programming	15	7	7	2	
Using Fourth Generation Languages			5	8	19

	NOT REQUIRED		COULD BE REQUIRED		DEFINATELY REQUIRED
Communication					
Interviewing			3	6	23
Verbal Communicating			1	3	28
Report Writing			1	8	21
Presentation Preparing				8	24
Teaching			7	7	18
Selling		1	7	13	11
Environment					
Organisation Structuring	2	4	15	7	4
Identifying User Functions		1	7	9	15
Implementing Office Procedures		2	17	8	5
Establishing Corporate Data Requirements	1	1	11	10	9
Business Practices	2	1	9	13	7
Analysis					
Evaluating Existing Procedures			3	13	16
Thinking Logically				6	26
Problem Solving		1		6	23
Acting as Change Agent		2	3	6	21
Fact Finding			2	8	22
Implementing Procedures		1	10	13	8
Organization and Methods Skills	1	2	8	14	7
Identifying User/Management Needs			4	8	20

	NOT REQUIRED		COULD BE REQUIRED		DEFINATELY REQUIRED
Management					
Managing/Motivating People			1	8	23
Task Prioritizing			3	16	13
Strategic Planning		2	9	15	6
Identifying Competitive Advantages		4	13	8	7
Building Competitive Positions	1	6	12	5	8
Decision Making			6	16	10
Managing Change			6	13	13
Reviewing Performances		1	6	13	12

Others (Please Specify)

NO OTHER ISSUES WERE RAISED

.....

.....



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Enquiries

Date 8 April 1986

Dear Colleague

It is often said that there is a skills shortage in the South African application software development industry. Efforts to correct the situation are difficult because the changing technology keeps demanding new sets of skills from the systems developers.

The attached questionnaire is part of a research programme which is attempting to identify the skills required by the systems analyst of the future. Knowing these skills is crucial to the recruiting, education and training of future systems analysts.

Because in South Africa there is no register of people involved in systems development, it was not possible for me to approach you directly. A senior member of your department was asked to identify appropriate people to participate in the research.

As you work through the questionnaire you will find some sections in which you are asked questions about yourself, while in others you are asked your opinion. Obviously, for these opinion questions there are no right or wrong answers. What is important is to know just what you think. Your answers can be completely frank. Neither your name, nor the name of your company will appear anywhere on the questionnaire. Completing the questionnaire will take you about 20 minutes, but the information you provide will help towards resolving one of the industry's serious manpower problems.

Please will you use the enclosed stamped envelope to return the completed questionnaire to me by 15 April 1986. If you have a particular interest in the research, please write to me under separate cover and I will send you interim results as soon as they become available.

In anticipation, I thank you for your help.

PROFESSOR TREVOR D CROSSMAN
(HEAD: DIVISION OF BUSINESS INFORMATION SYSTEMS)

INSTRUCTIONS TO PILOT STUDY PARTICIPANTS.

1. Please will you answer the Questionnaire.

2. Please will you write any criticism you have of either the covering letter or the questionnaire on the document concerned.

3. Aspects to consider include:

   structure

   lack of clarity

   grammar/spelling

   time to complete

   relevance

   etc.

4. I will arrange to collect the documents from you.

TREVOR CROSSMAN APRIL 86.

APPENDIX E

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Date:

Dear Colleague

I am currently involved in a research programme to explore the changing role of the systems analyst in commercial computing in South Africa. This phase of the research involves gathering the opinions of systems analysts who are employed by a sample group of over 100 companies. Because there is no register of systems analysts (which would enable me to approach people directly) I write to you to ask if you will identify one person per enclosed questionnaire from your department and ask them if they will help by providing input to the research. To help guide you in your choice, please will you ensure that the participants are involved IN SOME ASPECT OF ANALYSIS WORK.

There is no place on the questionnaire for either the respondent's or your company's name. This anonymity will be respected. Completing the questionnaire will take about 30 minutes, but the information gathered will help to identify the skills required by the systems analyst of the future. This, in turn, will provide a basis for designing appropriate recruiting, educational and training programmes for the application development industry.

If you have a particular interest in this research, please do not hesitate to contact me and I will send you interim results as soon as they become available.

In anticipation, I thank you for your help.

Yours sincerely

PROFESSOR TREVOR D CROSSMAN

The University of the Witwatersrand rejects racism and racial segregation. It is committed to non-discrimination particularly in the constitution of its student body, in the selection and promotion of its staff, and in its administration.

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Enquiries

Date 14 May 1986

Dear Colleague

It is often said that there is a skills shortage in the South African application software development industry. Efforts to correct the situation are difficult because the changing technology keeps demanding new sets of skills from the systems developers.

The attached questionnaire is part of a research programme which is attempting to identify the skills required by the systems analyst of the future. Knowing these skills is crucial to the recruiting, education and training of future systems analysts.

Because in South Africa there is no register of people involved in systems development, it was not possible for me to approach you directly. A senior member of your department was asked to identify appropriate people to participate in the research.

As you work through the questionnaire you will find some sections in which you are asked questions about yourself, while in others you are asked your opinion. Obviously, for these opinion questions there are no right or wrong answers. What is important is to know just what you think. Your answers can be completely frank. Neither your name, nor the name of your company will appear anywhere on the questionnaire. Completing the questionnaire will take you about 30 minutes, but the information you provide will help towards resolving one of the industry's serious manpower problems.

Please will you use the enclosed stamped envelope to return the completed questionnaire to me by 6 June 1986. If you have a particular interest in the research, please write to me under separate cover and I will send you interim results as soon as they become available.

In anticipation, I thank you for your help.

Trevor Crossman

PROFESSOR TREVOR D CROSSMAN
(HEAD: DIVISION OF BUSINESS INFORMATION SYSTEMS)

QUESTIONNAIRE ON THE SKILLS REQUIRED BY SYSTEMS ANALYSTS

DEFINITIONS

FUTURE - Between 5 and 8 years from now.

SKILL - The ability to perform specialized work with recognized proficiency

NOTE

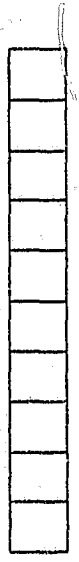
There are no "right" answers to these questions. This is an attempt to document what you think. Your opinion is needed for this research.

T D CROSSMAN
DIVISION OF BUSINESS INFORMATION SYSTEMS
UNIVERSITY OF THE WITWATERSRAND
JOHANNESBURG

SECTION 1

1.1 WHICH OF THE FOLLOWING ACTIVITIES DO YOU PERFORM AS PART OF YOUR PRESENT JOB?

(EACH BOX WHICH IS APPLICABLE)



Determining system feasibility

Identifying system requirements

Conceptual systems design

Physical systems design

Specifying programs

Developing programs

Systems testing

Implementing systems

Evaluating implemented systems

Managing people who are developing systems

Other (please specify)

.....

.....

.....

1.2 CURRENTLY WHICH THREE OF THE ABOVE ACTIVITIES DEMAND MOST OF YOUR TIME?

1. .....

2. .....

3. .....

SECTION 2

IN TERMS OF THE SKILLS YOU HAVE AT PRESENT PLEASE RESPOND TO EACH OF THE FOLLOWING STATEMENTS.

(THE BOX WHICH MOST CLOSELY REFLECTS YOUR ASSESSMENT)

	STRONGLY AGREE		UNCERTAIN		STRONGLY DISAGREE
– I have the skills to implement application packages					
– I have no difficulty in selling my ideas to other people (e.g. users)					
– I am unable to identify telecommunication requirements for a specific system					
– When necessary, I ensure that a new system is not just the computerization of existing procedures					
– I have the skills to cost-justify a new system prior to it being developed					
– I lack the skills needed to schedule a project accurately					
– I am unable to identify user organizational structures appropriate to newly developed computer-based systems					
– Currently I am not capable of controlling project development					
– My verbal communication skills enable me to impart ideas to others					
– I do not have the interpersonal skills to work effectively in and with a project team					
– When managing a project, I find it difficult to estimate time scales in systems development accurately					

	STRONGLY AGREE		UNCERTAIN		STRONGLY DISAGREE
- I am unable to rank project tasks in the order in which they should be performed					
- I am not naturally diplomatic					
- I have difficulty in dealing with people (e.g. users, colleagues)					
- My interviewing skills enable me to gather reliable information					
- I can write programs in ADA which could be used in a live environment					
- I have the ability to solve problems associated with analysis					
- I do not have the skills to form long-range plans which are directly linked to company objectives					
- I lack the skills to conduct an accurate review of my subordinates' work					
- I do not have the skills to design communication networks					
- I have skills at using statistics in a commercial environment					
- When managing a project, I find it difficult to estimate the costs of systems development accurately					
- I have the skills to use automated methods to develop systems (e.g. system generators)					
- I am capable of identifying the development method which is appropriate for a particular system (e.g. a traditional approach rather than prototyping)					
- I am able to conduct an audit of a computer-based system					

	STRONGLY AGREE		UNCERTAIN		STRONGLY DISAGREE
- I do not have the skills to implement procedures associated with a new computer-based system					
- I am able to identify the data required in a company's corporate database(s)					
- I am able to evaluate the appropriateness of existing business procedures					
- I can develop programs using one (or more) of the fourth generation languages					
- I am able to build computer-based systems with the necessary checks, balances and procedures required for auditing purposes					
- I need to develop more skills in project planning					
- I am not sufficiently familiar with current hardware to design appropriate installation configurations					
- I am competent at using structured systems analysis techniques					
- I do not have the skills to implement new manual procedures in an office environment					
- I have the ability to think logically					
- I have the skills to design logical models of the data required by a company					
- I find it difficult to make decisions on matters affecting my work					
- I do not have well-developed skills to supervise/motivate others					

	STRONGLY AGREE		UNCERTAIN		STRONGLY DISAGREE
- I am good at writing reports/ specifications					
- I have the skills to gather data needed to define system requirements					
- I do not have organization and methods (O and M) skills					
- I am an effective teacher					
- I have the skill to identify the functions performed within a user department					
- I am able to develop systems using the technique of prototyping					
- When managing a project, I find it difficult to monitor its progress accurately					
- I have the necessary skills to identify appropriate system security					
- For a specific system, I am able to identify users' information requirements					
- I can write programs in FORTRAN which could be used in a live environment					
- I am able to recognize when technology can be used to improve the company's competitive position					
- The extent of my experience in the business sector enables me to be effective as a systems analyst					
- I need more skill at analyzing the critical path of systems development					

	STRONGLY AGREE		UNCERTAIN		STRONGLY DISAGREE
- I can write programs in COBOL which could be used in a live environment					
- I have the necessary skills to build appropriate controls into a new system					
- I have the necessary skills to identify what the users/managers need from a proposed system					
- I am capable of constructing the algorithms from which programs can be built					
- My technique of preparing for oral presentations contributes to the success of my communication					
- I am able to specify systems which improve the company's competitive position					
- I am able to evaluate an application package in terms of a specific users' needs					

SECTION 3

CONSIDER THE DEVELOPMENT OF APPLICATION SOFTWARE IN THE FUTURE. IN YOUR OPINION, HOW IMPORTANT WILL EACH OF THE FOLLOWING TOOLS/METHODS BE IN YOUR ORGANIZATION?

(INDICATE WITH A IN THE APPROPRIATE BOX)

	VERY IMPORTANT				NOT IMPORTANT
THE TRADITIONAL DEVELOPMENT LIFE CYCLE					
Producing Business System Specifications					
Prototyping user requirements					
Programming in COBOL					
Programming in PASCAL					
Programming in BASIC					
Programming in ADA					
FOURTH GENERATION TECHNIQUES					
Fourth Generation Languages					
Prototyping whole systems					
USER INVOLVEMENT					
User representatives on project teams					
End user development					
Information centres					
APPLICATION PACKAGES					
Implementing application packages					
Customizing application packages					

	VERY IMPORTANT				NOT IMPORTANT
DEVELOPMENT TOOLS					
CAD (e.g. to document work-flows)					
Program/system generators					
Development work-station					
DEVELOPMENT ENVIRONMENT					
Strategic information systems planning					
Centralized standards enforcement					
Centralized project control					
DEVELOPMENT CENTRES					
Performance measurement					
Quality assurance procedures					
Evaluation of new methodologies/tools					

OTHER DEVELOPMENT TOOLS/METHODS WHICH, IN YOUR OPINION, WILL BE USED IN THE FUTURE

.....

.....

.....

SECTION 4

CONSIDER THE JOB RESPONSIBILITIES IN YOUR ORGANIZATION IN THE FUTURE. IN YOUR OPINION, HOW IMPORTANT WILL EACH OF THE FOLLOWING TASKS BE FOR FUTURE SYSTEMS ANALYSTS?

(INDICATE WITH A IN THE APPROPRIATE BOX)

	NOT IMPORTANT				VERY IMPORTANT
ANALYSIS					
Use formal analysis procedures (e.g. structured systems analysis)					
Cost-analyze systems					
Identify work-flows and procedures					
Conduct feasibility studies					
Formally document user needs					
Produce detailed specifications					
Understand system interdependencies					
Problem solving					
Use formal procedures to determine information requirements (e.g. information engineering)					
DEVELOPMENT					
Identify appropriate development methods					
Design systems					
Generate systems					
Traditional programming (e.g. in COBOL)					
Prototype systems					
Build whole systems					
Tune generated systems					
Integrate new and existing systems					
Revise development method standards					

	NOT IMPORTANT				VERY IMPORTANT
PROJECT MANAGEMENT					
Plan systems development					
Monitor systems development					
Control systems development					
Evaluate systems development					
Report on systems development					
Evaluate performance of systems developers					
Conduct post-implementation systems evaluations					
APPLICATION PACKAGES					
Select packages					
Implement packages					
Customize packages					
USER CONTACT					
Work in the user department					
Increase business skills					
Become the user					
Share responsibility for system with user					
Train users					
Act as a consultant					
TECHNOLOGY					
Keep abreast with technology					

	NOT IMPORTANT			VERY IMPORTANT

OTHER JOB RESPONSIBILITIES WHICH, IN YOUR OPINION, WILL BE REQUIRED IN THE FUTURE

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SECTION 5

IN YOUR OPINION, TO WHAT EXTENT WILL YOUR ORGANIZATION REQUIRE EACH OF THE FOLLOWING SKILLS FROM SYSTEMS ANALYSTS IN THE FUTURE?

(INDICATE WITH A IN THE APPROPRIATE BOX)

	NOT REQUIRED	COULD BE REQUIRED	DEFINITELY REQUIRED
ANALYSIS			
Evaluating existing procedures			
Fact finding			
Identifying user function			
Problem solving			
Thinking logically			
Identifying user/management needs			
Acting as a change agent			
Skills in business practices			
Using structured analysis methods			
Determining appropriate system security			
Determining appropriate system controls			
Cost-benefit analyzing			
Identifying competitive advantages			
Building competitive positions			
PROJECT MANAGEMENT			
Project planning			
Project controlling			
Scheduling			
Progress monitoring			
Estimating costs			

	NOT REQUIRED		COULD BE REQUIRED		DEFINITELY REQUIRED
Estimating timescales					
Critical-path analysis					

DEVELOPMENT

Determining appropriate development methods					
Constructing algorithms					
COBOL programming					
FORTRAN programming					
ADA programming					
Evaluating application packages					
Implementing application packages					
Using prototyping techniques					
Using Fourth Generation Languages					
Using automated systems development methods (e.g. system generators)					

IMPLEMENTATION

Implementing new structures in user departments					
Implementing system procedures					
Implementing office procedures					
Organization and methods skills					

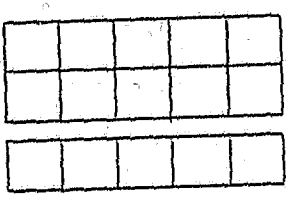
DATABASE

Determining corporate data requirements					
Designing logical data models					
Determining specific user's information requirements					

	NOT REQUIRED	COULD BE REQUIRED	DEFINITELY REQUIRED

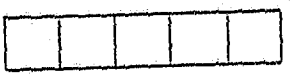
HARDWARE

- Designing installation configurations
- Designing computer networks
- Determining telecommunication requirements



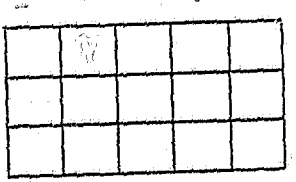
QUANTITATIVE METHODS

- Statistics



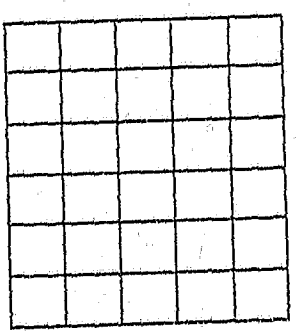
INTER-PERSONAL RELATIONSHIPS

- Working in and with a project team
- Dealing with people
- Being diplomatic



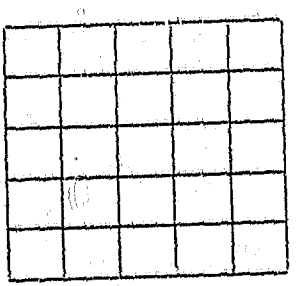
COMMUNICATIONS

- Interviewing
- Verbal communicating
- Report writing
- Presentation preparing
- Teaching
- Selling ideas



MANAGEMENT

- Maraging/motivating people
- Task prioritizing
- Strategic planning
- Decision making
- Reviewing performance



	NOT REQUIRED		COULD BE REQUIRED		DEFINITELY REQUIRED
AUDITING					
Auditing computer systems					
Building systems which can be audited					
OTHER SKILLS WHICH, IN YOUR OPINION, WILL BE REQUIRED IN THE FUTURE					
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.....					
.....					

SECTION 6

6.1 HOW MANY OF THE SKILLS WHICH YOU REGARD AS RELEVANT TO THE SYSTEMS ANALYST OF THE FUTURE DO YOU FEEL YOU HAVE AT PRESENT (ONE BOX)

NONE		ABOUT HALF		PRACTICALLY ALL

6.2 ANY COMMENTS ON HOW PREPARED YOU ARE AT PRESENT FOR THE FUTURE JOB OF SYSTEMS ANALYSIS?

SECTION 7

PLEASE PROVIDE THE FOLLOWING INFORMATION ABOUT YOURSELF.

7.1 ARE YOU MALE? ☐ FEMALE? ☐

7.2 AGE IN YEARS? ☐

7.3 WHAT IS YOUR HIGHEST ACADEMIC QUALIFICATION?

(ONE BOX)

Matric or equivalent ☐

National diploma or equivalent ☐

Bachelors degree ☐

Bachelors degree with honours ☐

Masters degree ☐

Doctorate ☐

OTHER (PLEASE SPECIFY)

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7.4 FOR HOW MANY YEARS, IN TOTAL, HAVE YOU BEEN EMPLOYED IN THE COMPUTER INDUSTRY?

(ONE BOX)

UNDER 5	5	6	7	8	9	10	11	12	13	14	15	OVER 15

7.5 FOR HOW MANY YEARS HAVE YOU BEEN EMPLOYED IN YOUR PRESENT POSITION? (ONE BOX).

UNDER 1	1	2	3	4	5	OVER 5

7.6 HOW MANY PEOPLE (EXCLUDING BOTH OPERATORS AND DATA CAPTURE STAFF) ARE INVOLVED IN APPLICATION SOFTWARE DEVELOPMENT IN YOUR COMPANY? (ONE BOX).

10 OR LESS	11-50	51-90	91-130	OVER 130

7.7 IN WHICH REGION OF SOUTH AFRICA IS YOUR DEPARTMENT SITED? (ONE BOX).

PWV		EASTERN CAPE	
OTHER TRANSVAAL AREAS		NATAL	
WESTERN CAPE		OTHER	
OFS			

7.8 IN WHAT TYPE OF INDUSTRY IS YOUR COMPANY INVOLVED? (ONE BOX).

Finance, insurance, real estate

Retail trade

Services (hotels, amusement, garages etc)

Wholesale trade

Transportation, communications

Manufacturing

Construction

Mining

Agriculture, forestry, fishing

Government (public administration)

OTHER (PLEASE SPECIFY)

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THANK YOU VERY MUCH. YOUR INPUT TO THIS RESEARCH IS APPRECIATED.

SECTION 4

CONSIDER THE JOB RESPONSIBILITIES IN YOUR ORGANIZATION IN THE FUTURE. IN YOUR OPINION, HOW IMPORTANT WILL EACH OF THE FOLLOWING TASKS BE FOR FUTURE SYSTEMS ANALYSTS?

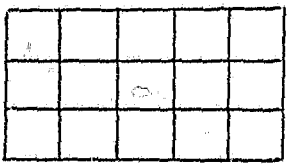
(INDICATE WITH A IN THE APPROPRIATE BOX)

	NOT IMPORTANT				VERY IMPORTANT	MISSING
ANALYSIS						
Use formal analysis procedures (e.g. structured systems analysis)	3	11	23	57	62	3
Cost-analyze systems	2	8	19	48	82	
Identify work-flows and procedures		6	17	73	63	
Conduct feasibility studies		5	19	65	70	
Formally document user needs	2	11	25	44	77	
Produce detailed specifications	12	18	32	38	59	
Understand system interdependencies	2		7	44	106	
Problem solving	1	1	14	43	100	
Use formal procedures to determine information requirements (e.g. information engineering)	5	12	30	60	49	3
DEVELOPMENT						
Identify appropriate development methods	1	7	17	60	73	1
Design systems		3	11	52	92	1
Generate systems	1	8	34	55	61	
Traditional programming (e.g. in COBOL)	24	33	53	28	20	1
Prototype systems	3	15	29	68	43	
Build whole systems	1	10	32	63	53	1
Tune generated systems	3	11	38	55	49	3
Integrate new and existing systems	1	4	10	49	95	
Revise development method standards	1	1	25	66	66	

	NOT IMPORTANT				VERY IMPORTANT	MISSING
PROJECT MANAGEMENT						
Plan systems development	1	1	10	43	104	
Monitor systems development	1	2	9	55	92	
Control systems development	1	2	14	44	98	
Evaluate systems development	2	3	11	67	74	2
Report on systems development	1	3	27	57	71	
Evaluate performance of systems developers	2	5	23	59	72	
Conduct post-implementation systems evaluations	2	5	17	55	78	
APPLICATION PACKAGES						
Select packages	7	14	22	46	69	1
Implement packages	5	13	35	52	53	1
Customize packages	12	15	36	44	51	1
USER CONTACT						
Work in the user department	8	8	19	46	78	
Increase business skills	2	3	6	50	98	
Become the user	31	32	43	34	17	2
Share responsibility for system with user	5	7	25	55	67	
Train users	3	9	18	44	85	
Act as a consultant	1	2	14	46	96	
TECHNOLOGY						
Keep abreast with technology			6	38	115	

NOT IMPORTANT

VERY IMPORTANT



OTHER JOB RESPONSIBILITIES WHICH, IN YOUR OPINION, WILL BE REQUIRED IN THE FUTURE

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SECTION 5

IN YOUR OPINION, TO WHAT EXTENT WILL YOUR ORGANIZATION REQUIRE EACH OF THE FOLLOWING SKILLS FROM SYSTEMS ANALYSTS IN THE FUTURE?

(INDICATE WITH A IN THE APPROPRIATE BOX)

	NOT REQUIRED		COULD BE REQUIRED		DEFINITELY REQUIRED	MISSING
ANALYSIS						
Evaluating existing procedures	1	4	28	37	89	
Fact finding	1	1	11	47	99	
Identifying user function		2	19	46	92	
Problem solving		-	8	40	111	
Thinking logically			3	23	133	
Identifying user/management needs		2	9	28	120	
Acting as a change agent	8	12	45	49	40	5
Skills in business practices	1	2	22	53	81	
Using structured analysis methods		5	30	57	66	1
Determining appropriate system security		1	18	53	87	
Determining appropriate system controls		3	13	43	100	
Cost-benefit analyzing	3	4	25	48	79	
Identifying competitive advantages	1	14	40	42	62	
Building competitive positions	2	17	42	44	52	2
PROJECT MANAGEMENT						
Project planning		2	6	33	113	
Project controlling		2	9	39	109	
Scheduling			16	40	103	
Progress monitoring		1	9	52	97	
Estimating costs	2	4	15	42	96	

	NOT REQUIRED	COULD BE REQUIRED		DEFINITELY REQUIRED		MISSING
Estimating timescales			14	53	92	
Critical-path analysis	1	8	42	53	55	
DEVELOPMENT						
Determining appropriate development methods	2	4	23	64	66	
Constructing algorithms	7	22	52	42	35	1
COBOL programming	20	35	53	21	29	1
FORTRAN programming	77	44	27	4	4	3
ADA programming	75	39	29	4	3	9
Evaluating application packages	5	16	34	51	52	1
Implementing application packages	5	16	33	55	50	
Using prototyping techniques	4	6	37	55	57	
Using Fourth Generation Languages	2		18	30	109	
Using automated systems development methods (e.g. system generators)	2	6	40	48	62	1
IMPLEMENTATION						
Implementing new structures in user departments	10	8	38	61	42	
Implementing system procedures	2	1	13	61	82	
Implementing office procedures	5	19	42	46	47	
Organization and methods skills	4	14	48	53	40	
DATABASE						
Determining corporate data requirements		5	13	34	107	
Designing logical data models	2	3	11	41	101	1
Determining specific user's information requirements		2	12	22	123	

	NOT REQUIRED		COULD BE REQUIRED		DEFINITELY REQUIRED
HARDWARE					
Designing installation configurations	26	33	36	25	39
Designing computer networks	28	23	37	29	42
Determining telecommunication requirements	19	20	40	32	48
QUANTITATIVE METHODS					
Statistics	10	21	62	48	18
INTER-PERSONAL RELATIONSHIPS					
Working in and with a project team		1	2	26	130
Dealing with people			1	15	143
Being diplomatic			11	24	124
COMMUNICATIONS					
Interviewing		3	12	43	101
Verbal communicating			4	33	122
Report writing			11	59	89
Presentation preparing			10	41	108
Teaching		5	20	54	80
Selling ideas		1	6	56	96
MANAGEMENT					
Managing/motivating people		1	8	28	121
Task prioritizing			10	46	103
Strategic planning	2	6	27	35	89
Decision making		1	6	41	111
Reviewing performance		2	13	48	96

	NOT REQUIRED		COULD BE REQUIRED		DEFINITELY REQUIRED	MISSING
AUDITING						
Auditing computer systems	6	12	49	48	43	1
Building systems which can be audited		2	20	35	101	1

OTHER SKILLS WHICH, IN YOUR OPINION, WILL BE REQUIRED IN THE FUTURE

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KEY TO APPENDIX 'K'
AND APPENDIX 'L'

To simplify the presentation of the results of the statistical processing (descriptive statistics in Appendix 'K' and inter-item correlations in Appendix 'L'), the following codes were used to represent the variables in the questionnaire.

Questionnaire section 2

Q1	I have the skills to implement application packages
Q2	I have no difficulty in selling my ideas to other people (e.g. users)
Q3	I am unable to identify tele-communication requirements for a specific system
Q4	When necessary, I ensure that a new system is not just the computerization of existing procedures
Q5	I have the skills to cost-justify a new system prior to it being developed
Q6	I lack the skills needed to schedule a project accurately
Q7	I am unable to identify user organizational structures appropriate to newly developed computer-based systems
Q8	Currently I am not capable of controlling project development
Q9	My verbal communication skills enable me to impart ideas to others
Q10	I do not have the interpersonal skills to work effectively in and with a project team
Q11	When managing a project, I find it difficult to estimate time scales in systems development accurately

Q12	I am unable to rank project tasks in the order in which they should be performed
Q13	I am not naturally diplomatic
Q14	I have difficulty in dealing with people (e.g. users, colleagues)
Q15	My interviewing skills enable me to gather reliable information
Q16	I can write programs in ADA which could be used in a live environment
Q17	I have the ability to solve problems associated with analysis
Q18	I do not have the skills to form long-range plans which are directly linked to company objectives
Q19	I lack the skills to conduct an accurate review of my subordinates' work
Q20	I do not have the skills to design communication networks
Q21	I have skills at using statistics in a commercial environment
Q22	When managing a project, I find it difficult to estimate the costs of systems development accurately
Q23	I have the skills to use automated methods to develop systems (e.g. system generators)
Q24	I am capable of identifying the development method which is appropriate for a particular system (e.g. a traditional approach rather than prototyping)
Q25	I am able to conduct an audit of a computer-based system
Q26	I do not have the skills to implement procedures associated with a new computer-based system
Q27	I am able to identify the data required in a company's corporate database(s)
Q28	I am able to evaluate the appropriateness of existing business procedures
Q29	I can develop programs using one (or more) of the fourth generation languages

Q30	I am able to build computer-based systems with the necessary checks, balances and procedures required for auditing purposes
Q31	I need to develop more skills in project planning
Q32	I am not sufficiently familiar with current hardware to design appropriate installation configurations
Q33	I am competent at using structured systems analysis techniques
Q34	I do not have the skills to implement new manual procedures in an office environment
Q35	I have the ability to think logically
Q36	I have the skills to design logical models of the data required by a company
Q37	I find it difficult to make decisions on matters affecting my work
Q38.	I do not have well-developed skills to supervise/motivate others
Q39	I am good at writing reports/ specifications
Q40	I have the skills to gather data needed to define system requirements
Q41	I do not have organization and methods (O and M) skills
Q42	I am an effective teacher
Q43	I have the skill to identify the functions performed within a user department
Q44	I am able to develop systems using the technique of prototyping
Q45	When managing a project, I find it difficult to monitor its progress accurately
Q46	I have the necessary skills to identify appropriate system security
Q47	For a specific system, I am able to identify users' information requirements
Q48	I can write programs in FORTRAN which could be used in a live environment

Q49	I am able to recognize when technology can be used to improve the company's competitive position
Q50	The extent of my experience in the business sector enables me to be effective as a systems analyst
Q51	I need more skill at analyzing the critical path of systems development
Q52	I can write programs in COBOL which could be used in a live environment
Q53	I have the necessary skills to build appropriate controls into a new system
Q54	I have the necessary skills to identify what the users/managers need from a proposed system
Q55	I am capable of constructing the algorithms from which programs can be built
Q56	My technique of preparing for oral presentations contributes to the success of my communication
Q57	I am able to specify systems which improve the company's competitive position
Q58	I am able to evaluate an application package in terms of a specific users' needs

Questionnaire section 3

THE TRADITIONAL DEVELOPMENT LIFE CYCLE

B1	Producing Business System Specifications
B2	Prototyping user requirements
B3	Programming in COBOL
B4	Programming in PASCAL
B5	Programming in BASIC
B6	Programming in ADA

FOURTH GENERATION TECHNIQUES

B7	Fourth Generation Languages
B8	Prototyping whole systems

USER INVOLVEMENT

B9 User representatives on project teams

B10 End user development

B11 Information centres

APPLICATION PACKAGES

B12 Implementing application packages

B13 Customizing application packages

DEVELOPMENT TOOLS

B14 CAD (e.g. to document work-flows)

B15 Program/system generators

B16 Development work-station

DEVELOPMENT ENVIRONMENT

B17 Strategic information systems planning

B18 Centralized standards enforcement

B19 Centralized project control

DEVELOPMENT CENTRES

B20 Performance measurement

B21 Quality assurance procedures

B22 Evaluation of new methodologies/tools

Questionnaire section 4

ANALYSIS

C1 Use formal analysis procedures (e.g. structured systems analysis)

C2 Cost-analyze systems

C3 Identify work-flows and procedures

C4 Conduct feasibility studies

C5 Formally document user needs

C6 Produce detailed specifications

C7 Understand system interdependencies

C8 Problem solving

C9 Use formal procedures to determine information requirements (e.g. information engineering)

DEVELOPMENT

C10 Identify appropriate development methods

C11 Design systems

C12 Generate systems

C13 Traditional programming (e.g. in COBOL)

C14 Prototype systems

C15 Build whole systems

C16 Turn generated systems

C17 Integrate new and existing systems

C18 Revise development method standards

PROJECT MANAGEMENT

C19 Plan systems development

C20 Monitor systems development

C21 Control systems development

C22 Evaluate systems development

C23 Report on systems development

C24 Evaluate performance of systems developers

C25 Conduct post-implementation systems evaluations

APPLICATION PACKAGES

C26 Select packages

C27 Implement packages

C28 Customize packages

USER CONTACT

C29 Work in the user department

C30 Increase business skills

C31 Become the user

C32 Share responsibility for system with user

C33 Train users

C34 Act as a consultant

TECHNOLOGY

C35 Keep abreast with technology

Questionnaire section 5

ANALYSIS

V1 Evaluating existing procedures

V2 Fact finding

V3 Identifying user function

V4 Problem solving

V5 Thinking logically

V6 Identifying user/management needs

V7 Acting as a change agent

V8 Skills in business practices

V9 Using structured analysis methods

V10 Determining appropriate system security

V11 Determining appropriate system controls

V12 Cost-benefit analyzing

V13 Identifying competitive advantages

V14 Building competitive positions

PROJECT MANAGEMENT

V15 Project planning

V16 Project controlling

V17 Scheduling

V18 Progress monitoring

V19 Estimating costs

V20 Estimating timescales

V21 Critical-path analysis

DEVELOPMENT

V22 Determining appropriate development methods

V23 Constructing algorithms

V24 COBOL programming

V25 FORTRAN programming

V26 ADA programming

V27 Evaluating application packages

V28 Implementing application packages

V29 Using prototyping techniques

V30 Using Fourth Generation Languages

V31 Using automated systems development methods (e.g. system generators)

IMPLEMENTATION

V32 Implementing new structures in user departments

V33 Implementing system procedures

V34 Implementing office procedures

V35 Organization and methods skills

DATABASE

V36 Determining corporate data requirements

V37 Designing logical data models

V38 Determining specific user's information requirements

HARDWARE

V39 Designing installation configurations

V40 Designing computer networks

V41 Determining telecommunication requirements

QUANTITATIVE METHODS

V42 Statistics

INTER-PERSONAL RELATIONSHIPS

V43 Working in and with a project team

V44 Dealing with people

V45 Being diplomatic

COMMUNICATIONS

V46 Interviewing

V47 Verbal communicating

V48 Report writing

V49 Presentation preparing

V50 Teaching

V51 Selling ideas

MANAGEMENT

V52 Managing/motivating people

V53 Task prioritizing

V54 Strategic planning

V55 Decision making

V56 Reviewing performance

AUDITING

V57 Auditing computer systems

V58 Building systems which can be audited

DESCRIPTIVE STATISTICS OF SECTIONS 4 AND 5 OF THE QUESTIONNAIRE

(Use Appendix 'J' as key to variables)

DIMENSION	N	QUARTILES Q1	MEDIAN	Q3	FREQUENCY TABLE (PERCENTAGES) 1	2	3	4	5
C1	187	3	4	5	1,6	7,0	18,7	37,4	35,3
C2	190	4	4	5	1,1	5,3	14,7	32,1	46,8
C3	190	4	4	5	-	3,7	14,7	42,6	38,9
C4	190	4	4	5	1,1	3,7	13,7	41,6	40,0
C5	190	3	4	5	1,6	7,9	19,5	27,4	43,7
C6	190	3	4	5	7,4	13,7	22,6	24,2	32,1
C7	190	4	5	5	1,1	-	6,3	29,5	63,2
C8	190	4	5	5	0,5	0,5	8,9	31,3	58,9
C9	187	3	4	5	2,7	7,0	17,6	34,8	38,0
C10	190	4	4	5	0,5	5,3	10,0	39,5	44,7
C11	190	4	5	5	-	2,1	8,9	33,2	55,8
C12	190	3	4	5	1,1	4,7	22,6	36,3	35,3
C13	190	2	3	5	18,4	23,7	31,1	16,3	10,5
C14	190	3	4	5	1,6	8,9	18,4	41,5	30,5
C15	191	3	4	5	0,5	6,8	20,9	39,8	31,9
C16	188	3	4	5	3,2	8,5	25,0	33,0	30,3
C17	191	4	5	5	0,5	2,1	7,9	34,6	55,0
C18	191	4	4	5	1,0	2,1	16,8	39,8	40,3
C19	191	4	5	5	0,5	1,0	6,3	29,8	62,3
C20	191	4	5	5	0,5	2,1	6,8	34,6	56,0
C21	191	4	5	5	0,5	2,1	10,5	28,8	58,1
C22	189	4	4	5	1,1	2,1	10,6	41,8	44,4
C23	191	4	4	5	0,5	3,1	17,3	32,2	41,9
C24	191	4	4	5	2,1	2,6	15,7	37,2	42,4
C25	191	4	4	5	1,0	3,1	12,0	34,0	49,7
C26	190	3	4	5	4,2	8,4	16,3	28,9	42,1
C27	190	3	4	5	2,6	10,0	23,2	33,2	31,1
C28	158	3	4	5	7,6	9,5	22,8	27,8	32,3
C29	191	3	4	5	4,7	6,8	15,2	27,2	46,1
C30	191	4	5	5	1,6	1,6	3,7	31,4	61,8
C31	189	2	3	4	16,9	24,3	25,9	22,2	10,6
C32	191	3	4	5	2,6	4,2	18,8	34,0	40,3
C33	191	4	5	5	2,1	5,2	13,6	28,3	50,8
C34	191	4	5	5	1,6	1,0	11,5	28,3	57,6
C35	191	4	5	5	-	0,5	6,3	25,7	67,5
V1	191	4	5	5	-	-	18,8	26,2	55,0
V2	191	4	5	5	-	-	7,9	28,8	63,4
V3	191	4	5	5	-	-	15,2	28,8	56,0
V4	191	4	5	5	-	-	4,7	24,1	71,2
V5	191	5	5	5	-	-	-	16,8	83,2
V6	191	4	5	5	-	-	8,4	18,3	73,3
V7	191	3	4	5	-	14,1	25,1	29,8	30,9
V8	191	4	4	5	-	-	19,4	34,6	46,1
V9	190	3	4	5	-	3,7	21,6	37,4	37,4
V10	191	4	5	5	-	-	12,6	31,4	56,0
V11	191	4	5	5	-	-	11,5	27,2	61,3
V12	191	4	4	5	-	-	24,1	30,4	45,5
V13	191	3	4	5	-	9,9	27,2	26,7	36,1
V14	191	3	4	5	-	14,7	28,8	25,7	30,9

DIMENSION	N	QUARTILES Q1	MEDIAN	Q3	FREQUENCY TABLE (PERCENTAGES) 1	2	3	4	5
V15	191	4	5	5	-	-	8,4	21,5	70,2
V16	191	4	5	5	-	-	11,0	25,1	63,9
V17	191	4	5	5	-	-	14,1	25,1	60,7
V18	191	4	5	5	-	-	9,4	32,5	58,1
V19	191	4	5	5	-	-	16,8	28,3	55,0
V20	191	4	5	5	-	-	11,5	33,5	55,0
V21	191	3	4	5	-	9,4	26,7	30,9	33,0
V22	191	4	4	5	-	-	18,8	41,4	39,8
V23	190	3	3	4	5,8	15,8	35,3	24,2	18,9
V24	190	2	3	4	16,8	20,0	32,6	14,2	16,3
V25	188	1	1	2	50,5	26,1	17,6	5,9	-
V26	191	1	2	2,5	49,7	25,4	19,9	5,0	-
V27	191	3	4	5	-	13,6	20,4	35,1	30,9
V28	191	3	4	5	-	12,0	23,6	33,5	30,9
V29	191	3	4	5	-	5,8	20,9	33,5	39,8
V30	191	4	5	5	-	-	13,1	19,9	67,0
V31	191	3	4	5	-	-	27,7	31,4	40,8
V32	191	3	4	4	6,3	6,3	27,7	35,6	24,1
V33	191	3	4	4	-	-	14,1	38,7	47,1
V34	191	3	4	5	-	13,6	31,9	28,3	27,2
V35	191	3	4	4	-	11,0	29,3	35,1	24,6
V36	191	4	5	5	-	-	15,2	23,0	60,7
V37	191	4	5	5	-	-	9,9	24,6	65,4
V38	191	4	5	5	-	-	10,5	15,7	37,8
V39	191	2	3	4	16,8	19,9	25,1	17,3	20,9
V40	191	2	3	4	18,3	15,7	25,1	17,3	23,6
V41	191	3	3	5	12,0	12,6	27,7	20,4	27,2
V42	191	3	3	4	-	21,5	38,7	27,7	12,0
V43	191	5	5	5	-	-	-	19,4	80,6
V44	191	5	5	5	-	-	-	11,5	88,5
V45	191	4	5	5	-	-	8,4	17,3	74,3
V46	191	4	5	6	-	-	9,9	25,1	64,9
V47	191	5	5	5	-	-	-	21,5	78,5
V48	191	4	5	5	-	-	6,3	35,1	58,6
V49	191	4	5	5	-	-	-	30,9	69,1
V50	191	4	5	5	-	-	16,8	31,9	51,3
V51	191	4	5	5	-	-	7,9	36,1	56,0
V52	191	5	5	5	-	-	-	24,1	75,9
V53	191	4	5	5	-	-	6,8	32,5	60,7
V54	191	4	4	5	-	-	24,1	26,2	49,7
V55	191	4	5	5	-	-	6,8	29,8	63,4
V56	191	4	5	5	-	-	11,5	31,9	56,5
V57	191	3	4	5	-	13,1	31,9	29,3	25,7
V58	158	4	5	5	-	1,3	12,7	22,2	63,9

INTER-ITEM CORRELATIONS OF ALL THE DIMENSIONS IN SECTIONS 2, 3, 4 AND 5 OF THE QUESTIONNAIRE

(Use Appendix 'J' as key to variables)

OBS	_TYPE_	_NAME_	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12
1	MEAN		4.00629	4.53165	4.44872	4.69182	4.86164	4.60759	4.57233	4.07595	4.21384	4.21519	4.58228	3.72956
2	STD		0.91746	0.582886	0.593458	0.538983	0.442633	0.527407	0.71564	1.0439	0.937035	0.824326	0.660199	1.10055
3	N		159	158	156	159	159	158	159	158	159	158	158	159
4	CORR	Q1	1	0.310101	0.389732	0.272981	.0402515	0.314208	0.200301	0.342741	0.206042	0.131683	0.219396	0.236725
5	CORR	Q2	0.310101	1	0.478882	0.395862	0.222583	0.452069	0.353831	0.335846	0.213994	0.400957	0.430579	0.24048
6	CORR	Q3	0.389732	0.478882	1	0.326175	0.147681	0.293078	0.337243	0.276016	0.143131	0.223155	0.260937	0.204426
7	CORR	Q4	0.272981	0.395862	0.326175	1	0.275672	0.292368	0.268732	0.241135	0.165941	0.295097	0.297184	0.272122
8	CORR	Q5	.0402515	0.222583	0.147681	0.275672	1	0.201139	0.195353	0.118577	0.124126	0.204152	0.19989	.0688418

OBS	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20	Q21	Q22	Q23	Q24	Q25	Q26
1	3.91139	4.05696	2.40881	4.36478	3.89937	3.91772	3.15723	3.51572	3.11392	3.92453	4.03797	4.33544	1.91139	1.69595
2	0.966837	0.972512	1.28877	1.0276	1.13179	1.02183	1.19681	1.211	1.21023	0.944988	1.19918	1.24977	1.47756	1.15858
3	158	158	159	159	159	158	159	159	156	159	158	158	158	148
4	0.339484	0.308347	0.180229	0.174783	0.140032	.0811973	0.260384	0.172926	0.160172	0.239904	0.110819	-.056356	-.025614	.0193973
5	0.256012	0.386563	0.209234	0.267749	0.236265	0.175427	0.234182	0.278991	0.211545	0.239389	.0401693	0.112857	3.1E-04	.0657606
6	0.300043	0.398202	0.101735	0.133214	0.17753	0.144616	0.245998	0.183036	0.198224	0.191241	-.055844	-.042663	1.6E-04	-.020841
7	0.290421	0.282934	0.076318	0.231388	0.170875	0.213897	0.210158	0.200481	0.145932	0.280221	0.154563	0.140896	-.050655	-.034232
8	0.157343	0.173463	.0284745	0.05633	.0394995	0.144512	0.105873	0.115251	.0779357	.0811188	0.181171	0.255927	0.100293	.0846397

OBS	Q27	Q28	Q29	Q30	Q31	Q32	Q33	Q34	Q35	Q36	Q37	Q38	Q39	Q40
1	4.21519	4.19745	3.71338	3.86792	3.04403	4.03145	4.39873	3.84906	2.94304	4.1761	4.35849	4.56329	2.75472	2.52532
2	0.90534	1.05271	0.954416	1.39217	1.32333	1.00896	0.85912	1.17025	1.29302	0.977821	0.82126	0.591161	1.43957	1.40834
3	158	157	157	159	159	159	158	159	158	159	159	158	159	158
4	0.210837	0.106714	0.249808	.0186646	.0855347	0.433223	0.273754	0.268851	0.310682	0.381059	0.213367	0.381547	.0427247	.0898533
5	0.333205	0.185775	0.220471	.0012097	0.111568	0.287811	0.382586	0.185962	.0578045	0.315893	0.293304	0.531941	0.147985	.0497085
6	0.238191	.0629933	0.242448	.0164891	.0095793	0.307608	0.38969	0.402561	0.112549	0.321955	0.261264	0.43945	.0227805	.0317099
7	0.250479	0.230512	0.194651	.0492506	0.149761	0.26636	0.270329	0.06441	0.121902	0.307838	0.253546	0.467314	0.128658	-.070459
8	0.139742	.0875555	0.16704	0.165359	.0998076	.0342507	.0979018	.0118994	-.049083	.0738468	0.281702	0.310508	.0962276	-.028004

OBS	Q41	Q42	Q43	Q44	Q45	Q46	Q47	Q48	Q49	Q50	Q51	Q52	Q53	Q54
1	3.42138	3.08176	4.54088	4.51572	4.05031	4.12579	4.50314	4.22152	3.74684	4.06962	4.15723	4.03145	4.49686	3.44654
2	1.24973	1.2777	0.93282	0.753518	1.1627	0.972678	0.635194	0.934978	0.983538	0.806953	0.775696	1.08745	0.884996	1.19941
3	159	159	159	159	159	159	159	158	158	158	159	159	159	159
4	.0216836	0.290864	0.073775	0.113491	0.143595	0.272483	0.19278	0.105818	0.127219	0.171306	0.134063	0.154778	.0649296	0.37312
5	.0752734	0.192991	0.127227	0.102584	0.132499	0.407082	0.212716	0.330314	0.216656	0.223337	0.233532	0.266276	0.236477	0.297614
6	.0217218	0.281493	0.110191	0.134281	0.143549	0.381548	0.263131	0.381055	0.337528	0.25923	0.193123	0.305785	0.193111	0.395451
7	.014802	0.219621	0.205671	0.135049	.0976394	0.25887	0.306419	0.332049	0.0640079	0.246998	0.158611	0.198619	0.256918	0.254207
8	-.035301	.0778887	0.017275	0.017779	-.075848	0.160155	.0136824	0.1432	0.105179	0.151874	.0600369	0.102193	0.123093	0.123999

OBS	Q55	Q56	Q57	Q58	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10
1	4.54088	4.1761	3.31447	4.38365	4.60256	4.0641	3.37813	1.74497	2.16107	1.83571	4.69872	3.95455	4.78344	4.09554
2	0.709271	1.0283	1.18074	0.855354	0.724497	1.09356	1.30335	1.00777	1.2361	1.14182	0.636724	1.0927	0.633655	0.998611
3	159	159	159	159	156	156	154	149	149	149	156	154	157	157
4	0.225722	0.233668	0.388346	0.254749	0.077973	0.14396	-.131554	.0316032	-.085866	.0154741	0.14544	.0356056	0.144304	.0810947
5	0.303739	0.282993	0.227337	0.345188	0.15816	-.012273	.0714175	-.079666	.0340581	.0627492	.0200488	-.062067	.0822185	0.138918
6	0.319504	0.212393	0.280037	0.201545	0.212658	.0950983	-.172281	-0.14462	-0.08505	-.002728	.0799965	.0225469	0.11746	0.231877
7	0.231157	0.282633	0.305288	0.31044	.0969285	0.122964	.0477655	-.076542	-.025065	-.002848	.0832537	-.026444	-.017071	-.022928
8	0.203123	0.115321	.0019593	0.184804	0.151414	.0131165	0.230712	-.015477	.0071052	.0119355	0.209491	.0103547	-.146351	-.072696

OBS	B11	B12	B13	B14	B15	B16	B17	B18	B19	B20	B21	B22	C1	C2
1	4.28025	3.88462	3.80128	3.42208	4.12418	4.11842	4.6039	4.27389	3.98089	4.25478	4.50955	4.35669	3.97861	4.18421
2	0.95296	1.18028	1.32187	1.32735	0.961908	0.927392	0.699382	0.937888	1.07698	0.80785	0.666197	0.808709	0.983505	0.944358
3	157	156	156	154	153	152	154	157	157	157	157	157	187	190
4	.0824332	-.032457	-.022565	.0627367	0.113344	.0708258	0.17587	0.015161	0.102792	0.140846	.0455663	0.085393	0.159119	.0652262
5	0.103744	-.013191	-.094561	.0531525	.0577559	0.087545	0.196441	.0247448	.0511535	.0320195	0.077732	-.079875	0.080061	-.046038
6	0.124603	-.011183	-.147779	0.135551	0.11855	0.164972	0.278202	0.179716	0.103743	0.159681	0.110583	.0498379	0.120495	.0324037
7	.0670919	-.043865	-0.15021	-.104666	0.209449	.0313576	0.119095	-.026685	-.009553	-.007857	-0.06611	0.073519	-.004651	-.016489
8	0.146751	-.076209	-.006902	.0556067	.0590019	0.124191	0.104353	.0452394	.0559976	0.10756	0.189713	.0814374	.0649949	0.108188

OBS	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
1	4.16842	4.15789	4.03684	3.6	4.53684	4.47366	3.98396	4.22632	4.42632	4	2.76842	3.89474	3.95812	3.78723
2	0.811982	0.870635	1.04588	1.26742	0.709878	0.725092	1.03942	0.870551	0.743467	0.931518	1.22973	0.991751	0.922425	1.06848
3	190	190	190	190	190	190	187	190	190	190	190	190	191	188
4	0.117461	-.026897	-.016009	.0359337	.0321664	.0514819	0.119442	.0359231	.0244726	.0559098	-.116377	0.148961	-.023633	-.104777
5	.0520095	.0601263	-.025793	-.086433	-.059168	.0567847	0.152191	0.119016	.0499078	.0805528	-.054993	0.116174	.0237953	.0082289
6	0.16374	.0863044	0.023465	-.016725	.0920812	0.12383	0.267095	0.133776	0.057925	.0758947	-.206675	0.259852	0.115032	-.097498
7	-.040972	.0328792	-.019402	-.058557	.0297625	.0546027	0.101258	0.135993	0.079586	.0481838	-.024609	.0754963	.0616032	-.023805
8	0.13737	0.204125	.0935656	.0465595	0.169992	0.199784	0.160402	0.192201	0.16092	.0938749	.0975072	.0436416	0.141382	.0419602

OBS	C17	C18	C19	C20	C21	C22	C23	C24	C25	C26	C27	C28	C29	C30
1	4.41361	4.1623	4.52356	4.43455	4.41885	4.26455	4.15754	4.15183	4.28272	3.96316	3.8	3.67722	4.03141	4.50262
2	0.768884	0.852145	0.709499	0.757183	0.802929	0.814668	0.860351	0.92508	0.872784	1.14259	1.07003	1.23262	1.14665	0.780515
3	191	191	191	191	191	189	191	191	191	190	190	158	191	191
4	-.100794	0.15501	.0954062	0.158218	0.126712	0.133598	0.121343	0.110092	0.115157	.0618961	.0684636	-.045161	0.226657	0.214026
5	-.004634	0.101934	.0886162	0.10514	.0842891	.0935271	0.102165	0.140746	0.102377	.0968563	.0247382	-.035852	0.109013	0.192245
6	.0034532	0.151354	0.079063	0.130415	0.137557	0.117005	0.113682	.0963431	0.104937	.0426596	.0392212	-.036481	0.10674	0.182113
7	-.004588	0.18102	0.110379	.0937697	.0344746	.0749854	.0670784	.0734683	.0344244	.0319195	-.010829	-.054417	-.065476	0.106913
8	0.214971	0.147612	0.114329	.0884695	0.193286	.0836281	.0763144	0.103679	0.113336	.0097837	.0751591	.0126141	.0269441	0.169582

OBS	C31	C32	C33	C34	C35	V1	V2	V3	V4	V5	V6	V7	V8	V9
1	2.85185	4.05236	4.20419	4.39267	4.60209	4.32984	4.53927	4.39791	4.66492	4.81675	4.63874	3.77957	4.24607	4.08421
2	1.24595	0.998621	1.00272	0.85085	0.631453	0.859069	0.69379	0.766946	0.564544	0.426654	0.6652	1.10518	0.818968	0.856511
3	189	191	191	191	191	191	191	191	191	191	191	186	191	190
4	.0082086	-.080394	.0013537	.0451173	-.032544	0.025403	0.103569	0.210864	.0201707	-.043521	0.111133	0.162224	0.183061	0.1525
5	-.076942	.0336611	.0097494	-.003624	.0034418	-.008655	0.162899	0.101187	.0278108	.0383324	.0756779	.0505803	.0888856	0.04485
6	-0.02021	0.025355	0.084686	0.191613	0.042543	0.176465	0.236736	0.25243	0.12419	.0541051	0.224954	0.218184	0.14997	0.104622
7	-.037995	.0332519	.0618326	-.024533	0.110363	.0146232	0.104272	-.022717	0.128882	.0985548	0.089765	0.117997	.0940717	-.006745
8	-.030265	0.105008	.0933299	0.12446	0.257232	0.112197	0.10558	.0353775	0.163533	0.242734	0.139911	.0389933	.0325687	.0842908

OBS	V10	V11	V12	V13	V14	V15	V16	V17	V18	V19	V20	V21	V22	V23
1	4.42932	4.48168	4.1623	3.88462	3.73545	4.60733	4.51832	4.46597	4.48168	4.34031	4.43455	3.86911	4.16754	3.34737
2	0.721095	0.738725	0.928974	1.02461	1.06883	0.671015	0.717033	0.731001	0.679341	0.867178	0.691801	0.994002	0.841799	1.12939
3	191	191	191	191	189	191	191	191	191	191	191	191	191	190
4	.0845625	0.184203	.0727186	0.122622	.0676289	.0703031	.0969971	.0479551	.0349193	.0896307	.0589233	0.127118	.0461748	.0572672
5	.0720268	.0449011	.0652183	0.04387	.0972914	0.16307	0.132011	.0415927	.0361942	0.187103	.0955397	-.012288	0.07738	.0376403
6	.0286566	0.100946	0.114654	0.118739	0.131338	0.149345	0.156168	.0559108	0.102518	0.171345	0.200571	.0572296	.0855135	-.0136681
7	.0293349	0.1285	-.035178	-.004098	-.062463	0.138733	0.132438	.0074327	.0585029	.0671767	0.143527	-.096122	0.130821	.0383303
8	.0925729	0.182067	.0622707	.0709253	0.063066	0.199961	0.23327	0.130355	0.176065	0.131848	0.238577	.0761786	.0955251	0.119009

OBS	V24	V25	V26	V27	V28	V29	V30	V31	V32	V33	V34	V35	V36	V37
1	2.93158	1.80851	1.81768	3.81579	3.80628	4.05236	4.51832	4.08421	3.64921	4.30366	3.66492	3.71204	4.41285	4.52632
2	1.29327	0.994924	0.974632	1.07041	1.06086	0.971912	0.787019	0.927683	1.10381	0.789362	1.07252	1.00305	0.822359	0.781291
3	190	188	181	190	191	191	191	190	191	191	191	191	191	190
4	-.065815	-.022003	-0.0465	.0047086	-0.01399	.0993214	-.005172	.0352965	0.174285	0.118838	0.201539	0.196367	.0675049	.0380128
5	0.115826	-.080558	.0188839	.0599342	.0706067	0.061625	-.006737	0.105092	0.102354	0.175105	0.13214	0.168511	.0651749	-.006269
6	-.169404	-.102525	-.094382	.0645234	.0720236	0.14995	-.030293	0.041772	0.239074	0.208064	0.237711	0.190028	0.160414	0.143096
7	0.130596	-.052881	-.029632	-.016571	4.3E-04	.0337915	.0046116	.0125954	-.012188	0.101489	.0136987	-.015599	.0374823	-0.00898
8	0.162098	0.02821	.0828626	-.054653	0	.0257594	0.183547	0.113212	-.016616	.0792173	.0275005	.0084717	0.145052	0.154735

OBS	V38	V39	V40	V41	V42	V43	V44	V45	V46	V47	V48	V49	V50	V51
1	4.62304	3.05759	3.12042	3.3822	3.25131	4.78534	4.87958	4.65969	4.53403	4.7644	4.52356	4.63874	4.31937	4.47644
2	0.699092	1.37337	1.41464	1.32804	1.83603	0.471275	0.342055	0.627776	0.716456	0.472384	0.614063	0.580713	0.812787	0.655519
3	191	191	191	191	191	191	191	191	191	191	191	191	191	191
4	.0333528	.0771788	.0615174	.0369126	.0557997	0.101942	0.116353	.0188049	.0265913	0.142558	0.075212	0.113128	.0418177	0.14086
5	0.14324	.0563136	.0180541	0.072813	.0272025	0.191122	0.156354	0.150996	0.214275	0.1329	.0738513	0.175226	0.125119	.0967097
6	0.228978	0.118503	.0967041	.0834245	.0474154	0902288	0.139252	.0683405	0.274932	0.177624	0.110419	0.216839	0.209047	0.178283
7	.0736042	.0530358	.0278164	.0940872	.0393802	0.145398	0.125713	-.019373	0.144249	0.15347	.0877532	0.145333	0.132801	.0756586
8	0.144244	.0376121	.0465776	.0702866	.0970522	0.118033	0.193684	0.101671	0.153178	0.209224	0.119522	0.170811	0.142494	0.130933

OBS	V52	V53	V54	V55	V56	V57	V58
1	4.70681	4.53927	4.28419	4.56021	4.43979	3.65263	4.48734
2	0.569308	0.621778	0.937625	0.536641	0.72205	1.06178	0.763309
3	191	191	191	191	191	190	158
4	.0560326	.0743467	.0742784	0.199282	0.157051	0.067976	0.118504
5	0.190482	0.131502	.0734135	0.177952	.0730628	-.011753	0.110557
6	.0849794	0.079792	0.123188	0.13445	0.161179	-2.6E-04	0.164239
7	0.115551	.0277027	.0148389	.0461395	.0654699	.0050941	0.240747
8	0.119981	0.09721	.0806883	0.10052	0.134003	0.134062	0.205566

OBS	_TYPE_	_NAME_	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12
9	CORR	Q6	0.314208	0.452069	0.293078	0.292368	0.201139	1	0.208299	0.292636	0.183688	0.311144	0.517764	0.225413
10	CORR	Q7	0.200301	0.353831	0.337243	0.268732	0.195353	0.208299	1	0.234843	0.132986	0.35571	0.24568	0.272259
11	CORR	Q8	0.342741	0.335846	0.276016	0.241135	0.118577	0.292636	0.234843	1	0.153221	0.295385	0.323549	0.197364
12	CORR	Q9	0.206042	0.213994	0.143131	0.165941	0.124126	0.183688	0.132986	0.153221	1	0.101884	0.192127	0.123393
13	CORR	Q10	0.131683	0.400957	0.223155	0.295097	0.204152	0.311144	0.35571	0.295385	0.101884	1	0.395403	0.2614
14	CORR	Q11	0.219356	0.430579	0.260937	0.297184	0.19989	0.517764	0.24568	0.323549	0.192127	0.395403	1	0.196159
15	CORR	Q12	0.236725	0.24048	0.204426	0.272122	.0688410	0.225413	0.272259	0.197364	0.123393	0.2614	0.196159	1
16	CORR	Q13	0.339484	0.256012	0.300043	0.290421	0.157343	0.296692	0.271516	0.28624	.0972232	0.241693	0.218416	0.161749

OBS	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20	Q21	Q22	Q23	Q24	Q25	Q26
9	0.296692	0.339593	0.128792	0.216694	0.16598	0.198857	0.216405	0.143933	0.14379	0.203712	0.109663	.0277916	-.075178	0.072456
10	0.271516	0.334584	0.281763	0.375082	0.188937	0.235377	0.255863	0.25354	0.188365	0.230477	-.008469	.0351608	-.131981	0.133774
11	0.28624	0.405075	0.101214	0.219464	0.143576	.0587052	0.186244	0.081978	0.174339	0.244284	0.020566	-.024281	-.087145	0.114734
12	.0972232	0.214223	0.141224	0.238088	0.237579	0.17346	0.143544	.0943446	0.239449	0.324432	0.197373	0.238492	.0486647	0.212448
13	0.241693	0.295842	0.227371	0.280476	0.19719	0.292376	0.360231	0.284303	0.247573	0.252573	0.221462	0.079366	.0241434	0.147621
14	0.218416	0.399058	.0749858	0.198478	0.148023	0.210261	0.185105	0.159691	0.105929	0.20714	0.127528	0.226420	.0055188	.0726188
15	0.161749	0.300158	0.383412	0.297539	0.338371	0.266824	0.381686	0.272836	0.252095	0.241857	.0072863	-.211837	-.068081	.0224072
16	1	0.509736	.0220913	0.192405	0.109115	.0690802	0.201374	0.182169	0.160293	0.183588	.0751766	-.093501	-.039026	0.103115

OBS	Q27	Q28	Q29	Q30	Q31	Q32	Q33	Q34	Q35	Q36	Q37	Q38	Q39	Q40
9	0.223472	0.171431	0.145523	.0055656	.0510096	0.221428	0.246365	0.119264	.0343412	0.211767	0.251435	0.487788	0.109754	0.101681
10	0.10749	0.105592	.0851589	.0232505	.0622871	0.252562	0.335614	0.064435	-9.1E-04	0.241878	.0551903	0.306052	.0900798	.0120202
11	0.2909	0.137384	0.202647	.0526891	.0748999	0.243043	0.22585	0.232452	0.141193	0.261239	0.179968	0.365347	0.213206	.0933701
12	.0289801	0.10778	0.26062	0.175747	0.135265	0.153972	0.210844	.0883469	.0302452	0.153221	0.266457	0.266192	.0483533	.0517062
13	0.248197	0.279144	0.244176	0.17769	0.190365	0.167252	0.294255	0.113579	.0674362	0.255513	0.263894	0.430369	0.258982	0.177332
14	0.183587	0.217367	0.135052	0.127412	0.153561	0.217958	0.235558	0.169876	.0772053	0.282956	0.24691	0.334187	0.112854	0.119096
15	0.266736	0.170378	0.177743	-.153092	.0558876	0.211926	0.222932	.0742565	.0481199	0.1496	0.226517	0.28237	0.196218	0.133982
16	0.34608	0.20945	0.190572	.0536727	0.156734	0.222612	0.26159	0.257353	0.173333	0.354682	0.163181	0.323599	0.167173	0.14189

OBS	Q41	Q42	Q43	Q44	Q45	Q46	Q47	Q48	Q49	Q50	Q51	Q52	Q53	Q54
9	.0266293	0.157321	.0670601	0.129396	0.173949	0.288195	0.280825	0.213742	0.16225	0.213942	0.25121	0.199624	0.205409	0.217537
10	0.132406	0.116838	0.192893	0.174465	.0962123	0.31226	0.100018	.0856697	0.193314	.0618297	0.150607	0.298727	0.151854	0.245773
11	0.10831	0.220441	0.206405	0.102381	.0622963	0.318797	0.177298	0.284533	0.126215	.0786039	0.118661	0.12444	0.147191	0.374924
12	-0.05968	.0446053	.0777133	.0633115	.0057899	0.053574	-.023565	.0458696	.0385812	.0932124	.0559944	0.223544	0.277497	0.1[illegible]27
13	0.193126	0.236361	0.166991	0.165795	.0424526	0.211344	.0891961	0.23369	0.119351	0.218261	.0955606	0.229959	0.183576	0.287078
14	0.128105	0.200319	.0858579	0.150934	0.178578	0.357846	0.178593	0.275238	0.16608	0.164973	0.21238	0.158492	0.186805	0.222247
15	0.16316	0.189918	.0783483	.0885867	0.084788	0.182305	0.253106	0.159578	0.237325	.0815999	0.198163	0.186099	0.187978	0.307601
16	0.131235	0.185549	0.120297	.0851313	0.108516	0.24949	0.263903	0.154708	0.116081	.0754824	0.135677	0.199449	0.17906	0.399607

OBS	Q55	Q56	Q57	Q58	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10
9	0.286853	0.263549	0.150127	0.372782	0.139292	.0548226	.0326826	0.0[illegible]876	.0737784	.0480213	.0664485	-.029929	-.048629	.0288333
10	0.210521	0.263716	0.227827	0.286608	.0897855	.0699543	.0763228	-.161226	.0107249	0.043506	0.1303	.0460933	.0826217	.0032685
11	0.334922	0.131127	0.246898	0.415874	0.101174	.0334991	-.033612	-.021405	.0153083	.0950566	0.143984	-.063187	.0222782	.0196793
12	0.154514	0.273703	0.111474	0.230872	0.121895	.0325961	-.024767	.0[illegible]01792	.0130322	.0963281	0.159621	.0164091	.0623991	-.016476
13	0.230569	0.25121	0.207953	0.357334	.0405995	-.002962	0.152511	-.091171	-.079079	-0.00603	.0325626	-.080306	.0736754	-.013219
14	0.32771	0.145605	0.17734	0.52498	.0225931	.0797506	.0431495	-.134452	-.083422	0.00609	0.11619	-.024108	-.019553	-.041003
15	0.196464	0.246407	0.272278	0.251719	.0492478	.0548644	-.023433	0.051394	-.066532	0.130064	-0.12724	-.031916	-.084815	-.062085
16	0.208186	0.183548	0.301813	0.257457	-.006329	.0891092	-.143957	.0586968	.0495082	0.12508	0.139921	.0369962	0.118496	0.038539

OBS	B11	B12	B13	B14	B15	B16	B17	B18	B19	B20	B21	B22	C1	C2
9	0.129648	.0070822	.0052347	-.017247	0.134408	.0403527	.0988222	0.133451	.0641234	0.105163	.0840944	.0727576	.0923585	-.030605
10	.0086757	-.031599	-.181111	.0999519	0.203478	0.148773	0.18491	0.183171	.0871464	0.081092	0.122925	.0819598	0.108674	0.153851
11	.0789977	.0150598	-.070436	0.090385	.0467309	.0935583	0.102305	.0559072	.0550533	0.114478	.0720953	-.007486	.0259122	.0666197
12	0.101983	-.101879	-.056027	.0348983	-.001311	.0567349	.0970522	.0665813	.0534292	0.010705	.0732253	.0503723	0.125146	.0107261
13	0.110296	-.022577	-.011777	-.001487	-.100619	0.105289	.0204089	.0608835	-0.03273	.0610221	.0317539	-.020932	.0122036	0.101812
14	0.193773	-.001846	-.013192	-.076104	0.19535	0.152506	0.103264	0.105402	0.108338	.0918465	0.112222	.0146746	.0335871	.0550982
15	.0344263	.0464037	-.029282	-0.02776	.0279775	-.101788	0.103898	.0272326	.0064996	.0281686	-.041838	.0678965	.0655224	0.101059
16	0.123495	5.9E-04	-.047321	.0313643	0.156582	.0247503	0.227545	.0859861	0.177586	.0320405	.0308653	0.145817	0.125313	.0084328

OBS	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
9	.0309533	.0279059	.0491385	.0344533	0.083278	.0528873	0.144989	0.108883	0.105498	.0927276	-.071105	0.154452	.0836375	-.026132
10	.0920137	0.258692	0.120889	.0211895	0.203761	0.169182	0.180502	0.234597	.0653203	0.125656	-0.02578	0.152836	0.107211	-.309429
11	0.130775	.0760278	.0055097	-.061493	-.002111	0.070668	0.134852	-.004236	-.058293	-3.5E-04	-.037836	0.128311	-.019835	-.089675
12	-.062942	.0383553	.0323273	-.048434	-.033293	0.019639	0.085146	0.110511	0.155125	-0.0031	-.057199	-.027288	.0261834	-.059616
13	.0496211	0.20981	.0856662	-.031254	0.104501	.0306699	0.175332	0.174861	.0199167	.0318956	0.135928	.0911709	.0585028	.0027785
14	0.156138	0.207535	.0620495	-.023178	0.160815	0.103287	0.248985	.0526681	.0626964	0.125601	.0697144	0.181911	0.168525	0.148516
15	-6.06648	0.101232	.0603545	0.113566	.0157396	.0031828	.0806277	-.021877	-0.03196	.0247097	-.006149	0.090702	-.061883	-.012249
16	.0622473	.0534189	-.108614	-0.03953	.0439445	-.066659	0.218305	0.129596	.0571866	0.090739	-.126316	0.163062	.0526318	-.146985

OBS	C17	C18	C19	C20	C21	C22	C23	C24	C25	C26	C27	C28	C29	C30
9	-.015169	0.182492	.0571687	0.192618	0.208525	0.128434	0.151946	.0462983	0.092693	.0525936	.0656457	.0398474	.0909913	0.142214
10	-.019709	0.189152	0.166827	0.220156	0.129743	0.132989	0.161086	.0869416	0.128138	.0263518	0.08413	-.033259	.0778071	.0866783
11	-.032709	0.136675	.0631355	.0847913	0.071595	.0423888	.0624966	.0540559	-.021298	.0751276	.0497546	-.046838	0.113725	0.153805
12	.0378816	.0971714	0.105609	0.118066	0.109888	.0244509	0.103132	.0778381	-.017859	.0521493	0.121033	-.028828	.0825817	.0528556
13	-.138663	0.104229	0.200077	0.19819	0.190561	0.170515	0.14957	0.167807	.0760621	.0650154	0.015593	0.071289	-.042766	0.110199
14	.0761243	0.167162	0.16438	0.28649	0.265507	0.166792	0.163194	0.15861	0.175897	.0759665	.0727967	.0430305	2.8E-04	.0185105
15	-.113209	.0921007	.0394078	-.057046	0.904657	.0076158	.0753641	.0363884	.0249486	0.063631	.0917771	-.002155	-.044798	0.051769
16	-.126155	0.176362	0.128986	0.152202	.0923192	0.114734	0.103528	0.04477	.0816478	0.150187	.0931972	.0047428	0.209745	0.143137

OBS	C31	C32	C33	C34	C35	V1	V2	V3	V4	V5	V6	V7	V8	V9
9	0.018857	-.080368	.0707917	-0.00422	.0969095	.0279225	0.115402	0.120718	-.053612	.0484012	.0962608	.0161451	-0.02352	.0658712
10	-.140513	-.017682	.0267056	0.055847	.0583674	.0146108	0.162438	.0679063	.0227618	.0567414	.0747134	.0887354	0.138706	.0054451
11	-.091321	-.154995	0.003824	-.002373	.0722665	.0423133	0.14006	0.110231	.0718217	.0422917	.0359955	.0662445	0.221323	.0111943
12	-.171083	-.049117	.0068855	.0448258	0.205042	-0.11737	-.083054	.0351175	.0819283	0.186057	0.088905	-.093435	-.028679	0.240501
13	-0.05683	.0344963	.0720799	-.100777	0.124448	.0627716	.0652169	.0737891	-.073687	.0288827	0.019581	.0446903	.0197274	.0693095
14	-.140938	-.013595	.0634665	.0126298	0.129365	-.003575	.0742984	0.124095	.0113493	.0700289	.0700348	.0118182	.0343814	.0091777
15	-.094174	.0642358	-.010401	-.084563	.0103962	-.011764	.0129005	.0253204	.0582897	.0891081	.0152225	0.106459	-0.0434	.0325188
16	.0024694	.0229755	-.022078	.0226769	.0597548	.0442011	-.015012	.0388958	-.032526	-.053386	0.105203	0.103303	0.20555	0.118955

OBS	V10	V11	V12	V13	V14	V15	V16	V17	V18	V19	V20	V21	V22	V23
9	.0578556	.0722667	-.051609	-.001921	-.025544	0.118815	0.252723	0.129489	.0480797	0.080688	-0.0078	-.037608	0	0.0133424
10	.0689975	0.110281	0.163923	0.154003	0.146251	0.258811	0.265303	0.096564	0.11512	0.113685	0.127995	-.028367	0.217685	0.011004
11	0.04444	0.114647	0.121191	0.184558	0.15782	0.058199	0.11397	.0487344	.0160028	0.189942	.0338111	.0019824	0.114129	-.101318
12	-.004288	.0189428	-.004453	.0657137	.0560692	.0634499	0.130599	.0507234	.0570549	.0393033	-.073824	0.122812	.0463572	.0821538
13	0.146717	0.161527	0.156018	.0909978	.0895837	.0622242	0.104297	.0963488	0.104807	0.122181	0.124128	-.002198	0.164473	.0608958
14	0.221607	0.206893	0.127477	0.149448	0.104184	0.226198	0.261518	0.158553	0.100732	0.259502	0.152181	.0522724	.0796147	.0460915
15	0.05034	0.104317	0.116284	.0816084	.0811923	.0838468	0.060687	.0631331	0.102552	0.168993	0.127735	-.002869	.0610658	0.062307
16	.0761495	.0783548	0.121835	0.195473	0.137684	.0809541	.0398957	-.072211	-.116102	0.102921	-.015174	0.102845	0.187283	-.002943

OBS	V24	V25	V26	V27	V28	V29	V30	V31	V32	V33	V34	V35	V36	V37
9	.0144835	-.027311	-.016497	.0913164	.0936626	.0696036	.0385223	.0773747	.0582127	0.136971	0.129291	.0283273	.0484967	0.911857
10	.0078119	-0.11189	-.022071	.0433057	.0024146	0.130629	0.023741	0.126427	0.128804	0.140003	0.102397	.0843116	8.1E-04	0.149305
11	.0162563	-0.07869	.0708238	.0284967	.0238578	.0672219	.0526546	0.118105	0.167131	0.252401	0.211198	0.131227	0.188368	.0258306
12	-.140713	-.046213	.0314613	.0248535	.0425802	.0175098	.0695394	-.047334	.0425787	-0.01503	.0890092	.0547741	.0792028	.0770372
13	0.171305	.0203231	0.051696	-.011832	-.033829	.0294526	0.119869	.0221423	-.028348	.0530491	0.041017	0.154416	0.101395	0.11013
14	0.104929	-.069728	+.001943	.0450374	.0403692	0.02526	0.159337	0.15612	.0995838	0.217428	0.166619	0.117354	0.155659	0.101514
15	.0100867	.0447071	.0844025	.0785159	0.112764	0.040311	-0.11682	-.024398	0.206227	0.127606	0.146741	.0847502	.0217611	.0688761
16	-.146436	-0.06615	.0785235	.0700192	.0367748	.0935285	-.011557	0.159665	0.127401	.0770828	0.12795	0.043986	.0116196	.0095247

OBS	V38	V39	V40	V41	V42	V43	V44	V45	V46	V47	V48	V49	V50	V51
9	0.171362	-.027722	-.006749	-.015337	.0213573	.0914081	.0561086	0.197719	0.166598	0.162086	.0894238	.0286312	0.112426	.0135633
10	-.003356	-.041652	-.018267	.0300185	-.019648	0.159403	.0817438	0.228792	.0192456	.0969896	.0990923	0.202135	.0310793	.0698463
11	-.009181	.0865283	.0954467	.0956289	.0072279	0.099093	0.1067	.0054726	.0133039	0.115706	.0614423	0.101418	.0580342	0.100909
12	.0471143	-0.06168	-.019861	.0273256	.0178763	0.148222	0.138012	.0497043	-.070106	.0532226	-.055109	7.2E-04	-.050343	.0116071
13	.0807265	0.184881	0.148431	-.00715	.0704024	0.106717	-0.01215	.0913546	.0827363	-.004867	.0425256	.0771971	.0685798	.0132621
14	0.145661	.0956223	.022008	.0495572	-.052921	.0678651	.0761502	0.164292	0.153018	0.106714	.0673689	0.065352	0.108913	3.2E-04
15	.0873612	0.20271	0.170179	0.156324	.0762853	.0862897	-.030859	-.026557	0.001921	-.115927	.0347121	.0679834	.0645001	.0455332
16	-.013379	0.168378	0.113226	.0955243	.0374157	.0110254	-.011763	.0604958	.0629015	0.111701	.0477204	.0874232	.0748791	.0675666

OBS	V52	V53	V54	V55	V56	V57	V58
9	.0468584	0.08982	0.001922	0.201144	.0781476	-.033343	0.148465
10	0.115412	.0738288	.0824656	.0864621	.0424432	.0786096	0.145694
11	0.167405	0.103035	0.19976	0.160897	0.159532	.0519532	0.150199
12	0.084617	-.005482	.0344264	.0501627	0.007941	-.021057	.0760763
13	.0710146	.0765707	0.104722	0.107288	0.123037	0.208558	0.236128
14	0.086192	0.215556	0.164295	0.252073	0.13285	0.094151	0.287088
15	.0681976	-.038843	.0948744	0.055805	0.102399	-.009277	0.050145
16	0.101694	.0769738	0.201226	0.122884	.0766091	0.115088	.0909768

OBS	_TYPE_	_NAME_	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12
17	CORR	Q14	0.308347	0.386563	0.398202	0.282934	0.173463	0.339593	0.334584	0.405075	0.214223	0.295842	0.399858	0.300158
18	CORR	Q15	0.180229	0.204234	0.101735	0.076318	.0284745	0.128792	0.201763	0.101214	0.141224	0.227371	.0749858	0.383412
19	CORR	Q16	0.174783	0.267749	0.133214	0.231388	0.05633	0.216694	0.375082	0.219464	0.238088	0.280476	0.198478	0.297539
20	CORR	Q17	0.144032	0.236265	0.17753	0.170875	.0394995	0.16598	0.188937	0.143576	0.237579	0.19719	0.148023	0.338371
21	CORR	Q18	.0811973	0.175427	0.144616	0.213897	0.144512	0.198857	0.235377	.0587052	0.17346	0.292376	0.210261	0.266824
22	CORR	Q19	0.260384	0.234182	0.245998	0.210158	0.105873	0.216405	0.255863	0.186244	0.143544	0.380231	0.185105	0.381688
23	CORR	Q20	0.172926	0.278991	0.183036	0.200481	0.115251	0.143933	0.25354	0.081978	.0943446	0.284303	0.159691	0.272836
24	CORR	Q21	0.160172	0.211545	0.198224	0.145932	.0779357	0.14379	0.188365	0.174339	0.239449	0.247573	0.105929	0.252095

OBS	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20	Q21	Q22	Q23	Q24	Q25	Q26
17	0.509736	1	0.092029	0.218963	0.283615	0.273871	0.319582	0.299953	0.190364	0.277061	.0193099	-.022239	-.109818	0.155616
18	.0220913	0.092029	1	0.35967	0.406523	0.363297	0.368275	0.33567	0.379048	0.218777	.0056346	-.129457	-.033434	0.101308
19	0.192405	0.218963	0.35967	1	0.39767	0.397584	0.279363	0.329239	0.319391	0.220169	.0738634	-.072905	-.029031	-.043596
20	0.109115	0.283615	0.406523	0.39767	1	0.407041	0.346633	0.485406	0.288301	0.208972	.0614475	-.071311	-.045276	-.070014
21	.0690802	0.273871	0.363297	0.397584	0.407041	1	0.414391	0.398582	0.219038	0.207427	.0921202	-.016139	-.095505	-.001328
22	0.201374	0.319582	0.368275	0.279363	0.346633	0.414391	1	0.50621	0.237013	0.2976	.0282778	-.192539	.0078662	0.157339
23	0.182169	0.299953	0.33567	0.329239	0.485406	0.398582	0.50621	1	0.181937	0.19453	.0229573	-.023766	1.3E-04	.0799552
24	0.160293	0.190364	0.379048	0.319391	0.288301	0.219038	0.237013	0.181937	1	0.232952	0.141008	-.011345	-.036762	0.130934

OBS	Q27	Q28	Q29	Q30	Q31	Q32	Q33	Q34	Q35	Q36	Q37	Q38	Q39	Q40
17	0.290978	0.174989	0.212044	-.034731	0.160602	0.310712	0.322629	0.240747	0.133269	0.299923	0.203483	0.459114	0.128529	0.056087
18	.0702922	.0073727	0.109326	-.066002	-.039459	0.169831	0.279303	0.14493	0.10015	0.12086	0.162703	0.182752	0.153691	0.131347
19	0.275679	0.244593	0.139826	-0.02746	.0370791	0.328086	0.301811	0.15688	0.141676	0.206161	.0500842	0.305825	0.215871	0.101384
20	0.14435	.0830984	.0495336	-.002719	-.008851	0.277373	0.221369	0.134858	0.101385	0.154322	0.149973	0.240625	.0181461	.0635139
21	0.143673	.0897291	.0947427	.0294508	-.001434	0.22715	0.258525	.0537682	0.132511	0.154011	0.05212	0.236614	0.167897	0.102311
22	0.188048	0.147919	0.154184	-0.03289	0.169539	0.18909	0.235408	0.196212	0.199023	0.23497	0.241239	0.300333	0.242535	0.173481
23	0.139349	0.151066	.0979969	0.017489	0.160992	0.263894	0.232315	0.150041	.6998775	0.199473	.0852685	0.297646	.0957167	.0636944
24	0.147373	0.106572	0.210573	.0806254	.0573345	0.169559	0.283704	.0540837	0.088987	0.248525	0.139231	0.261586	0.188846	0.121715

OBS	Q41	Q42	Q43	Q44	Q45	Q46	Q47	Q48	Q49	Q50	Q51	Q52	Q53	Q54
17	.0833485	0.14437	0.151361	0.206261	0.12416	0.34163	0.305203	0.226094	0.287686	0.182	0.241238	0.292488	0.195573	0.384682
18	0.120836	0.141282	.0464221	.0769724	0.04239	0.100188	5.0E-04	.0636999	0.172409	0.082857	0.139335	0.289023	0.151793	0.20114
19	0.131607	0.1376	0.348774	0.133936	0.025434	0.304763	.0839136	.0784057	0.170611	0.149067	0.2286	0.410678	0.392212	0.223028
20	.0396574	.0443884	0.227234	0.158543	.0974205	0.12523	0.193313	0.205967	0.231632	0.142412	0.170584	0.290566	0.336523	0.165234
21	.0794256	0.135851	0.212648	0.249215	0.17593	0.168307	0.133091	0.226112	0.240853	0.268542	0.188262	0.350491	0.306887	.0994353
22	0.133192	0.298158	0.128173	0.111096	.0821201	0.229979	0.103288	0.236166	0.202206	0.141539	0.247197	0.284969	0.137569	0.26735
23	.0141147	0.16043	0.191127	0.114427	.0015653	0.120679	.0901336	0.150848	0.176972	0.130364	0.183847	0.284467	0.253192	0.132179
24	0.112303	.0793872	.0301411	.0173719	.0512889	0.165143	.0294886	.0970676	0.142941	0.153963	.0556414	0.257335	0.211791	0.277906

OBS	Q55	Q56	Q57	Q58	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10
17	0.264799	0.233974	0.275149	0.336357	.0965341	.0740378	-.048022	-.059526	-.019409	0.095705	.0241682	-0.01527	-.026591	.0227838
18	0.103081	0.312616	0.145849	0.156244	-.003416	-.042752	-.046871	-.094623	-.111372	-.004698	-.101256	-.119809	.0280026	-0.06945
19	0.292424	0.412474	0.284012	0.363247	-.017794	-.020698	.0902867	-6.3E-04	0.132612	.0842204	-.071246	-.058309	-0.01263	.0127282
20	0.229945	0.35416	0.160543	0.247399	-.033483	-.055754	-.070074	-.066433	-.040286	-.007233	-.081758	-.136361	-.073252	-.091432
21	0.231505	0.35117	0.148143	0.274235	-.001822	0.081053	0.146953	-.095338	-.078021	-.037372	-.048205	6.2E-04	-.061003	-.066865
22	0.148743	0.237359	0.168854	0.187944	-.001289	.0439142	-.013777	-.011719	-.013328	.0601124	-.006687	.0027924	-.075107	-.093405
23	0.26019	0.234841	0.156709	0.222773	.0692601	.0305789	.0808639	-.044351	-.014841	.0582332	-.038956	-.071723	-0.09023	.0183508
24	0.176741	0.227988	0.257529	0.240485	-.017525	.0748578	-.009771	-.154483	-.121568	.0134261	-.012714	-.032669	0.038103	-.001483

OBS	B11	B12	B13	B14	B15	B16	B17	B18	B19	B20	B21	B22	C1	C2
17	0.143235	-6.0E-04	-.052744	.0731874	.0804597	.0702681	0.191569	0.129004	0.118329	.0670768	0.127821	.0665702	0.172475	.0575692
18	-.050011	-.005707	.0057008	-0.04058	-.062634	-0.10061	.0058323	.0210321	.0202012	.0612855	.0355199	.0298754	0.147549	2.3E-04
19	.0706161	0.096036	.0658725	.0105203	.0414616	.0366287	.0488235	.0727664	.0419482	-.003199	.0490877	-.024831	-.003361	.0458537
20	.0280444	.0289377	.0017344	.0113116	.0043594	.0523149	.0547383	.0925146	.0497422	.0650068	.0190013	.0409658	3.6E-04	.0094064
21	.0238406	-.073583	-.068256	-.033308	-.019013	.0687333	.0744637	0.149945	0.120143	.0535548	.0768224	.0361015	0.062443	0.100409
22	-.001203	.0285508	.0059572	-.037154	-.018278	.0581716	.0697795	-.043743	-.039744	.0153504	-.028219	-.006448	0.073888	0.139547
23	.0769031	.0229206	.0177329	.0359579	.0904764	0.117187	0.153999	-.029788	.0386216	.0425638	-.018325	-.033111	.0502585	.0787276
24	-.086283	-.046441	-.111262	.0526608	-.070859	-.059303	-.002135	-.012499	-.066869	-.007653	-.029529	.0538103	.0249449	-.073822

OBS	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
17	0.157445	0.109778	.0597993	.0549947	0.100007	.0163338	0.342817	0.145579	.0710677	.0540258	-.054471	0.20784	.0371935	-.057676
18	-.009599	.0106019	.0613176	.0728072	.0925228	-.048557	.0148147	.0402819	.0032371	-.049711	0.075437	-0.0246	.0191013	-.009743
19	.0116596	0.129826	-.037321	.0356973	0.109237	.0215772	0.135575	.0212193	-.079614	.0826443	-.106825	.0099822	.0070781	.0022289
20	0.017835	-.048663	-.011718	-.005998	.0332045	5.2E-04	.0551196	.0379924	-.012528	.0302787	-.026456	.0671361	.0361311	.0437351
21	.0790494	0.133187	.0453897	0.118468	.0481314	.0385539	0.153294	.0130315	.0365556	.0467997	0.13899	.0272099	.0548045	-.013676
22	.0249551	.0539157	.0396738	.0485526	0.173429	.0920882	0.110431	.0806013	-.008411	0.040366	.0339028	0.122431	.0550135	.0653209
23	.0135974	.0585967	-.029283	0.118905	0.140789	.0585294	.0976619	.0344656	-.043585	0.193299	.0162048	.0720368	.0720363	.0880811
24	-.149312	-.089062	-.030058	-.093577	-.039291	-0.07185	0.140706	-.014963	.0046303	.0288491	.0268794	.0284738	-.039161	-.089668

OBS	C17	C18	C19	C20	C21	C22	C23	C24	C25	C26	C27	C28	C29	C30
17	-.020635	0.158799	0.164931	0.173732	0.218407	0.198144	0.242588	0.204407	0.126487	0.116505	0.108841	-.014157	.0776743	0.115625
18	-.129641	.0234961	.0856393	.0488264	.0652925	0.052924	.0703804	0.119394	0.129133	-.073149	-.040546	-.023276	-.022132	-.022861
19	-.074397	.0210951	0.122992	0.159836	0.100307	.0625446	.0448467	.0591445	0.157595	.0750563	.0858711	.0404683	.0176486	0.157542
20	-.021852	.0976299	.0381594	.0336476	.0104263	.0517865	.0338371	.0210287	.0102535	.0910772	0.101723	.0305234	-.023489	.0552962
21	-.050508	.0693267	0.179024	0.176297	0.213299	0.220739	0.220714	0.208756	0.110787	.0470755	.0540969	-.030318	-.073961	-.005261
22	-.010707	0.137758	0.195662	0.128255	0.169669	0.104287	0.123733	.0880465	.0336845	.0049009	.0855691	.0066425	1.1E-04	0.110671
23	-.071342	.0559762	0.136109	.0686923	.0633632	0.109655	0.107001	0.131565	.0355382	0.007338	.0441791	.0208535	-.041998	.0846574
24	-0.05318	.0110603	.0542767	.0170066	.0451942	.0020777	-.113717	-.022823	.0069427	-.072022	-.059599	-.151126	-.041895	-0.05402

OBS	C31	C32	C33	C34	C35	V1	V2	V3	V4	V5	V6	V7	V8	V9
17	-.104793	.0115724	-.035157	.0081451	0.093126	.0953761	.0709287	.0629917	-.002753	-.0100781	0.108077	0.100429	.0303356	0.187796
18	-.073819	.0259202	3.5E-04	.0627153	.0191578	-.076322	.0403862	.0281615	-.045341	-.014818	-.016921	.0770607	-.092293	.0702734
19	-.107623	.0446705	.0198993	.0091154	.0824827	.0194086	.0368403	.0586597	0.100881	.0179774	.0108511	-.004612	0.031557	-.015614
20	-.122288	-0.01628	.0543792	.0324465	.0566556	-.056267	0.062961	0.102578	0.146704	.0754357	.0681091	.0879594	-.105051	-.054058
21	-.062709	.0922986	.0020968	.0255722	0.114922	-.002141	-.046097	.0547852	.0763197	0.106452	.0375493	0.113373	-0.16853	.0592711
22	.0057401	.0793012	-.037958	-.129303	0.100276	.0132603	.0427585	.0938403	0.032264	0.154801	.0287269	0.113501	.0502905	.0148816
23	-.042419	.0280509	-.018566	-.053704	0.165732	-.013333	.0383015	.0980162	.0931801	0.202238	.0600244	.0734548	.0634698	-.075607
24	-.103972	.0184883	-.03339	-.064432	-.090093	-.081552	-.043965	-.026541	-.042908	.0072587	-.076598	.0300591	-.055582	.0209953

OBS	V10	V11	V12	V13	V14	V15	V16	V17	V18	V19	V20	V21	V22	V23
17	.0848702	.0743824	0.184436	0.244569	0.228733	0.188756	0.236222	0.144607	0.156229	0.224359	0.118387	0.138401	0.24644	-.026759
18	.0339196	.0163412	-0.07177	.0240287	0.075148	.0512272	.0506368	.0323413	.0727407	.0020751	.0511014	-.031291	.0383356	-.012762
19	-.012365	-7.4E-04	.0656767	.0206827	-.031166	0.135205	0.111225	.0782255	0.059173	.0414974	.0558646	-.089725	0.00359	-.008874
20	.0280359	-.014311	-.016888	.0083953	.0030531	.0385063	.0093785	-.032415	.0381017	-.004295	-.002676	-0.09524	.0376818	-.064273
21	.0487886	0.116379	.0761927	0.117668	.0696651	0.131658	0.156352	0.122026	0.174654	0.139735	0.15154	.0233194	.0833127	.0591127
22	0.144784	0.158815	.0197887	.0248836	.0293466	.0428523	.0018811	.0067025	.0126283	-.003569	0.145144	-.061893	.0607268	-.036128
23	.0309544	.0371375	.0088289	.0599314	.0433965	.0718974	.0536973	.0323715	.0699194	0.067341	0.13599	-.001972	0.11842	-.016963
24	.0086668	-.017413	-0.06211	-.031213	.0068223	.0077529	-.032631	-.058251	-0.02868	.0281819	.0144675	-.013043	-8.0E-04	0.113363

OBS	V24	V25	V26	V27	V28	V29	V30	V31	V32	V33	V34	V35	V36	V37
17	-0.05556	-.057098	0.121994	.0982719	0.105338	0.125603	-.050518	.0200026	0.14849	0.202698	0.211926	.0890796	0.101066	.0466462
18	.0852042	-1.2E-04	-.039872	-.076024	-.043651	-.099414	-.066241	-.092097	0.106661	.0370492	.0938138	0.115038	-0.15984	.0196004
19	.0027129	.0446328	.0546618	.0648905	.0256406	-0.06179	-.111176	-.034463	.0382415	.0077058	0.113442	.0782609	-.155645	-.013179
20	-.089043	-.034836	-0.11205	.0657236	.0775439	-.002372	-.022808	.0219558	0.117614	.0498497	0.118396	-.045768	-.023595	.0282004
21	0.155677	-.035155	-.133801	-.017285	-.015751	.0078183	.0148424	-.078658	.0582654	.0665144	.0085778	-.002629	-.018362	.0125751
22	-.010578	-.040509	-.023782	-0.02566	.0620933	.0366415	-.065337	-.018815	.0591845	0.089417	0.105342	.0861616	.0890749	0.10975
23	.0118031	-.016591	.0097559	-.021144	.0356068	-.027086	.0112041	0.097392	0.128535	0.140997	0.111135	.0470136	-.045037	.0039877
24	0.049452	-.045401	.0552459	-.094187	-.054611	-.033236	-0.00566	-.081438	-.025013	-.045691	-.032783	.0377112	-0.11206	.0362075

OBS	V38	V39	V40	V41	V42	V43	V44	V45	V46	V47	V48	V49	V50	V51
17	.0241351	0.114208	.0462467	.0412034	.0698555	0.111377	.0553183	.0867758	0.192508	0.188128	0.142035	0.169575	0.125325	0.14412
18	.0154251	0.112048	.0819777	0.094911	.0649915	.0865819	-.034757	0.018248	-.039861	-.069659	-.106968	-.007848	-.009635	-0.04907
19	-.075983	-.018919	-.023636	-.019271	-.178488	0.254041	.0639929	0.12305	-0.03679	.0234073	-.044982	.0946542	-.040963	.033468
20	.0104387	.0490518	.0365446	.0212945	-.115583	0.136552	.0494357	.0557237	.0627363	.0262595	-.027582	0.102567	.0491419	9.2E-04
21	-.024058	.0478471	-0.00197	6.6E-04	.0014913	0.183556	.0973604	0.154501	0.122708	.0860484	0.11206	0.146569	0.105617	.0595032
22	.0912272	0.232449	0.170893	0.108315	.0538726	.0422378	-.021716	.0427304	.0886803	.0231606	0.138213	0.12648	.0561861	.0318716
23	-.029362	0.113521	.0586224	.0512207	.1315254	0.145624	0.111424	0.089566	0.115084	0.055216	.0808366	0.221091	0.125057	.0986209
24	-.016366	.0176621	.0221189	.0299258	-.046152	-.016047	-.044477	.0328286	-.083192	-0.03374	-.163582	-.086911	-.098931	-.021887

OBS	V52	V53	V54	V55	V56	V57	V58
17	0.253936	0.179546	0.20677	0.239781	0.213821	.0871472	0.143021
18	.0192531	-.063795	-.030587	.0328934	.0172564	.0126245	.0199582
19	0.137333	.0772197	.0098538	.0683219	.0381263	-.079136	-.006394
20	.0548758	-.024962	-.069356	-.027405	-.026855	-.035259	.0227418
21	0.156321	-.008862	-.019824	.0211298	.0567513	.0268922	0.116979
22	.0825813	.0190887	.0157738	.0712887	.0562058	.0764188	0.122479
23	0.190796	.0333572	-.011732	.0126184	-.005364	.0186254	.0338179
24	-.072803	.0041652	-.040551	-.014246	-.021812	-.025483	.0230778

OBS	_TYPE_	_NAME_	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12
25	CORR	Q22	0.239904	0.239389	0.191241	0.280221	.0811188	0.203712	0.230477	0.244284	0.324432	0.252573	0.20714	0.241857
26	CORR	Q23	0.110819	.0401693	-.055844	0.154563	0.181171	0.109663	-.008469	0.020566	0.197373	0.221462	0.127528	.0072863
27	CORR	Q24	-.056356	0.112857	-.042663	0.140896	0.255927	.0277916	.0351608	-.024281	0.238492	0.079366	0.226428	-.211837
28	CORR	Q25	-.025614	3.1E-04	1.6E-04	-.050655	0.100293	-.075778	-.131981	-.087145	.0486647	.0241434	.0055188	-.068081
29	CORR	Q26	.0193973	.0857608	-.020841	-.034232	.0846397	0.072456	0.133774	0.114734	0.212448	0.147621	.0726188	.0224072
30	CORR	Q27	0.210837	0.333205	0.230191	0.250479	0.139742	0.223472	0.10749	0.2909	.0289801	0.248197	0.183587	0.266736
31	CORR	Q28	0.106714	0.185775	.0629933	0.230512	.0875555	0.171431	0.105592	0.137384	0.10778	0.279144	0.217367	0.170378
32	CORR	Q29	0.249808	0.220871	0.242448	0.194851	0.16704	0.145523	.0851589	0.202647	0.26062	0.244176	0.135052	0.177743

OBS	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20	Q21	Q22	Q23	Q24	Q25	Q26
25	0.183588	0.277061	0.218777	0.220169	0.208972	0.207427	0.2976	0.19453	0.232952	1	0.18197	0.113831	.0334736	0.108834
26	.0751766	.0193099	.0056346	.0738634	.0614475	.0921202	.0282778	.0229573	0.141008	0.18197	1	0.257102	0.300873	.0931593
27	-.093501	-.022239	-.129457	-.072905	-.071311	-.016139	-.192539	-.023766	-.011345	0.113831	0.257102	1	.0559764	0.10233
28	-.039026	-.109818	-.033434	-.029031	-.045276	-.095505	.0078662	1.3E-04	-.036762	.0334736	0.300873	.0559764	1	0.100171
29	0.103115	0.155616	0.101308	-.043596	-.070014	-.001328	0.157339	.0799552	0.130934	0.108834	.0931593	0.10233	0.100171	1
30	0.34608	0.290978	.0702922	0.275679	0.14435	0.143673	0.188048	0.139349	0.147373	0.233885	.0890947	-.073819	-8.4E-04	-.007714
31	0.20945	0.174989	.0073727	0.244593	.0830984	.0897291	0.147919	0.151066	0.106572	0.156721	.0720955	.0331771	.0928612	.0231675
32	0.190572	0.212044	0.109326	0.139826	.0495336	.0947427	0.154184	.0979969	0.210573	0.284858	0.162915	0.12221	0.101858	0.141762

OBS	Q27	Q28	Q29	Q30	Q31	Q32	Q33	Q34	Q35	Q36	Q37	Q38	Q39	Q40
25	0.233865	0.156721	0.284858	0.038057	0.224211	0.277904	0.204426	0.115326	.0734492	0.252595	0.200649	0.300752	.0690142	.0411884
26	.0890947	.0720955	0.162915	0.171945	.0548372	0.175274	0.106324	.0050451	.0186201	0.121051	0.170805	0.209391	.0934024	.0122657
27	-.073819	.0331771	0.12221	0.342805	0.230328	.0425019	-.068545	-.136321	-.045008	-.016379	.0135342	.0461705	-.002601	-.042781
28	-8.4E-04	.0928612	0.101858	.0114282	.0189277	.0070853	-.034513	-.014825	-0.09921	.0056691	0.10734	-.029463	-0.0295	-.003301
29	-.007714	.0231675	0.141762	.0709656	0.225412	-.019845	0.142363	.0652193	.0911616	.0632903	0.135509	.0664145	.0688904	.0462851
30	1	0.462352	0.17057	-.036935	0.083803	0.19062	0.322283	0.245345	.0454409	0.20918	0.161367	0.309575	0.269751	.0720081
31	0.462352	1	0.144903	-.015292	0.287636	.0725602	0.280755	0.116144	.0299213	0.286518	0.179234	0.253594	0.242263	0.100368
32	0.17057	0.144903	1	0.266118	0.20317	0.148398	0.179277	0.102635	.0753958	0.191474	0.211735	0.215046	0.097089	.0491942

OBS	Q41	Q42	Q43	Q44	Q45	Q46	Q47	Q48	Q49	Q50	Q51	Q52	Q53	Q54
25	.0040507	0.140844	.0945098	-.0[illegible]105	-.018988	0.190709	0.185918	0.174346	0.102463	0.165405	.0902742	0.193985	0.25121	0.225859
26	-0.07722	0.15029	-.021373	0.013785	-.015402	-0.02186	.0892975	-.004607	-0.04662	0.10902	.0164052	.0299983	0.134535	.0978672
27	-.069787	.0328186	-.088319	.0243322	-.062165	-.017349	-.095139	-.037633	-0.04135	0.177125	.0123784	-.095193	.0815428	-.138181
28	-.087093	0.179678	-.123368	-.019695	-.058717	-.108653	-.025849	-0.10148	-.098669	-.031322	-.105088	-.066935	-.080212	.0114524
29	.0914599	0.172375	-.009454	.0932173	0.094349	-0.00742	-.111635	-0.11754	-.066343	-.084894	-.017287	.0879377	0.060685	.0521057
30	.0048774	0.158779	0.108648	.0713391	.0357132	0.194893	0.138248	0.14732	.0273484	.0498823	0.138388	0.133029	0.242469	0.308605
31	.0788833	.0531727	.0868542	.0977032	.0383044	0.136253	0.11582	0.150021	-.038674	-.031559	0.194473	.0565483	0.256527	0.247944
32	-0.01171	0.25138	-.010167	.0138724	.0235725	0.111748	-.005872	0.049087	-4.6E-04	0.180573	.0046550	.0131227	0.194575	0.165978

OBS	Q55	Q56	Q57	Q58	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10
25	0.119449	0.186244	0.292665	0.229793	.0729939	-0.01629	.0802832	.0765808	-.002447	.0760554	-.003113	-.113535	.0385374	-.196138
26	.0160694	0.119729	0.117119	0.172377	-.062941	0.104416	.0136917	.0457038	-.074982	-.021471	.0665619	.0220181	-.063753	-.092955
27	-.050106	-.005043	.0192268	0.112592	0.164153	.0044794	0.16766	-.056579	.0273365	-.023365	0.179902	0.103128	-.067383	-0.0195
28	-.019027	-.103558	-.016353	-.004001	-.040948	.0149434	-.050202	0.122965	.0730959	.0640448	-.026778	.0270953	-.037694	-.074144
29	0.129949	.0021662	.0248702	.0721404	.0784075	.0481745	-.011937	0.153113	0.103907	0.365496	.0312153	0.031441	-.043797	.0069487
30	0.239482	0.214179	0.287407	0.18554	.0714752	-0.08818	.0103043	.0303708	.0574341	.0774399	.0028822	-.130585	-.044771	.0525616
31	0.157743	0.168535	0.108724	0.239997	.0546187	.0108564	.0291784	.0419557	.0690696	.0961298	-.102582	-.059311	-.084164	-.009037
32	.0688406	.0795077	0.207155	0.224486	-.011635	0.17856	-.052249	.0328493	-.098968	.0552456	.0159329	.0430601	.0380436	0.065699

OBS	B11	B12	B13	B14	B15	B16	B17	B18	B19	B20	B21	B22	C1	C2
25	-.035971	-.055396	-.019864	-.060315	.0313997	-5.2E-04	.0905003	.0163529	.0320782	0.038624	-.023025	0.119977	0.105507	.0514619
26	.0283768	-.202454	-.095127	-.059099	.0110883	.0048531	-.027004	.0548529	-.038451	.0144122	.0044013	-.030379	.0100045	.0101222
27	0.118557	-.104153	-.050751	-.055845	0.167378	0.209909	-.051483	.0664384	0.105593	.0184874	0.107789	.0235084	-.004544	-.005247
28	8.9E-04	.0443598	.0684011	-.016786	-.061671	-.015384	0.110981	0.160502	0.102627	-.001332	.0043106	-0.11824	.0180488	.0233707
29	-0.01565	-.135002	-.152781	0.163709	-.021526	-0.01513	-.046717	.0592007	.0144165	.0958005	.0685659	.0538564	.0991663	0.12331
30	.0693858	0.142783	-.0795318	-.063982	.0366789	.0866582	0.223058	.0814331	0.062838	.0713267	.0932911	-0.03555	0.180134	.0883388
31	-.010053	0.213527	0.146918	-.122141	0.033584	0.120538	.0775269	-.066468	-.022741	.0528612	7.2E-04	-.107298	-.006451	.0455003
32	0.13478	-.103108	-0.12568	0.113486	-.021691	0.137055	0.08515	-.002276	-.044702	0.051295	-.031646	-.054321	-.039329	.0756252

OBS	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
25	-.027093	.0241869	-.014497	-.009717	0.158152	0.103611	0.216486	.0755665	0.145486	.0227335	0.111819	.0112166	0.115669	0.004046
26	-.001615	-.088234	-.078068	-.094785	.009612	.0059367	0.109018	.0527161	0.134173	-.034369	.0498936	-.019796	-.065772	-.071628
27	-.038435	.0412014	.0406174	-.035121	.0747667	0.139387	.0729698	.0984919	0.109113	.0352783	0.153097	.0389261	0.10145	0.121962
28	.0011475	-0.07343	.0101572	.0056572	.0013055	-0.00919	.0439691	0.076899	0.135015	0.073353	.0532695	.0274205	.0249015	-.060299
29	.0300925	0.159882	.0275133	.0853723	0.106002	-0.0011	.0184449	.0988659	-.008995	-.070513	.0911814	-.032907	-.054768	-.059164
30	0.125071	0.156906	.0416293	0.108425	.0643604	.0427001	0.271257	0.129814	.0545972	0.017121	-.029148	.0915591	.0388672	-.035321
31	.0661368	.0647963	-3.8E-04	.0533672	-.003407	-.012985	.0878744	.0962106	.0333966	.0279473	.0753316	0.092465	.0340103	.0177365
32	-.096413	-.030867	-.106123	-.131646	.0808062	-.039907	0.136901	-.005087	.0597338	.0284112	-.071493	0.230347	0.102181	-.025609

OBS	C17	C18	C19	C20	C21	C22	C23	C24	C25	C26	C27	C28	C29	C30
25	-.047378	.0431309	0.18252	.0925082	.0802859	.0640129	.0407922	.0817929	-.040052	-.010182	.0012631	.0133959	-.011909	0.122773
26	-.094838	0.112764	.0079084	-.010081	-.095914	.0093888	-.070686	.0204651	0.064416	-.070645	-.119371	-.157349	-.047911	.0065038
27	0.12448	.0120634	.0055694	.0640494	.0385866	-.025795	5.8E-04	.0829029	-.037515	-.103413	-.042946	.0342963	.0011427	-0.00272
28	-0.13563	-.002984	-.010571	-.073958	-.090552	-.025789	-.056277	.0019806	.0393941	.0438622	.0437357	.0641753	-.023605	-.063193
29	-.017555	-.042849	0.174954	0.210808	0.23365	0.160023	0.127002	.0872001	.0553777	-.071215	-.011706	-.036284	.0751916	-.050109
30	-.052871	.0831961	0.162602	0.124847	.0826633	0.101819	0.053126	0.119224	.0652556	0.276573	0.202563	0.157402	0.082754	0.145516
31	-.025278	-.034036	0.116626	0.172556	0.165214	.0559668	.0885504	0.127426	.0338125	0.147626	0.170313	0.162144	-.003014	.0672559
32	-.021696	.0033036	-.035009	-.041995	-.044534	-.059177	-.043746	-0.04569	-.074048	-0.03797	-.059544	-.098518	-.005886	0.106261

OBS	C31	C32	C33	C34	C35	V1	V2	V3	V4	V5	V6	V7	V8	V9
25	-.033822	-.006106	-.018361	.0074574	0.171243	-.021533	-.023144	-.043689	.0268461	0.197807	.0473728	0.128545	-.006053	0.15877
26	-.060844	-.018922	.0895691	-.052694	.0181064	-.080942	-.069721	.0128786	-.015477	.0456124	.0353674	-.018188	-.068912	.0211961
27	-.069831	-.108187	.0457806	0.104886	0.2225	-.065103	.0086312	-.063277	.0401662	.0885174	-.019954	-.155103	-.001479	.0482801
28	-.049551	-.141093	0.096536	0.131444	-.092145	-.058255	-.085333	0.0428	.0244411	.0712029	-.001626	-.006694	.0506251	.0146118
29	-0.1039	-.170714	-.019265	-0.11232	-.035554	-.038134	-.049472	.0422972	-.038841	0.122824	-.007964	-.095412	-.011278	0.185913
30	-.048142	.0030372	-.054003	-.004731	-1.5E-04	0.15274	.0344135	.0162018	.0694616	-0.01018	.0394605	-.038724	.0826297	.0929257
31	-.135377	-.044932	-.037546	-.069879	-.005569	0.017534	-.091916	-.064764	.0038419	-.019677	-.054584	-.078093	0.120114	.0471937
32	.0252203	-.006266	-.111278	.0061768	.0970129	0.015065	-.046496	-.005193	-.100407	.0556379	0.060032	.0549692	.0228947	-.065832

OBS	V10	V11	V12	V13	V14	V15	V16	V17	V18	V19	V20	V21	V22	V23
25	.0226153	.0317128	.0128207	.0349942	.0203104	.0580944	-.020341	-.028727	-0.07228	.0187615	0.066047	.0312045	0.004208	.0975487
26	.0201931	0.040447	-.127099	-.055082	-0.10975	.0196363	-.093882	.0010968	.0182507	-.048573	-.021404	.0487181	-.024605	0.341427
27	.0324963	.0332681	-.074306	-.064483	-.067643	.0700934	.0688323	0.017481	.0474365	-.057038	-.010139	.0367767	-.055941	0.122933
28	.0443956	-7.8E-04	-.004382	-.084516	-.028621	.0621737	-.037941	-.006014	-.040408	-.029322	.0012202	.0279855	-.110523	0.147191
29	0.100531	0.046319	-.004775	0.114333	0.116445	0.108298	0.123123	.0846113	0.048905	.0049611	-.001079	0.1616	0.100224	.0490071
30	.0139181	0.134609	0.126751	.0481646	.0340827	.0895811	-.030051	-.008817	-.094826	0.118554	0.113302	.0595385	0.101716	.0092092
31	.0325941	0.122825	0.047869	-.023271	.0035733	-0.00241	.0770638	.0327033	-.082955	.0641928	0.160331	-.031934	-.060977	-.046804
32	.0601556	0.115882	.0586081	.0367137	0.100912	-.050679	-.085729	-.048437	-.058277	-.005198	.0035421	-.011765	-0.10365	-.012493

OBS	V24	V25	V26	V27	V28	V29	V30	V31	V32	V33	V34	V35	V36	V37
25	.0852448	-.078566	.0101919	.0114499	.0288488	.0098326	-.090378	-.024158	-.032873	.08032	0.099781	.0552538	.0418783	.0695455
26	0.076423	0.019184	.0501535	-.196725	-.215412	-.053914	0.159907	-.015298	-.073959	-.076443	-.054868	-6.9E-04	.0296199	0.155852
27	0.2594	-.021689	.0211316	-.155598	-.135351	.0416515	0.157908	.0896537	-.112753	-.024876	-.104263	-.063974	.0384345	.0552969
28	7.8E-04	0.172411	0.123148	-.024823	.0337481	.0032473	.0225677	-0.01017	-.089902	-.067039	.0095535	0.118215	.0820978	0.195088
29	.0427046	.0022181	0.244331	-.132681	-.094882	-.122123	-.073291	-0.10196	.0159197	-0.02855	.0235359	0.159394	.0198732	0.082307
30	-.043789	-.004202	0.060339	0.24966	0.198725	-.084115	-.144293	-.017401	.0590381	0.101123	.0988332	.0243768	.0636142	.0624882
31	-.001999	.0598682	.0805767	0.164511	0.135622	-.013824	-.095108	.0308882	-0.05063	-.030208	-.045093	-.003463	-.026752	-.092744
32	.0033628	.0130984	.0481394	-.042935	-.056181	0.204781	.0146073	-.053869	-.018197	0.100074	.0704346	0.120251	0.087195	.0479281

OBS	V38	V39	V40	V41	V42	V43	V44	V45	V46	V47	V48	V49	V50	V51
25	0.124991	0.106214	0.0489[illegible]	-.106307	.0734328	0.118177	0.117536	-.007354	-.027901	0.10726	.0313881	.0170614	.0249805	.0249944
26	-.021938	-1.1E-04	.0240739	-.005218	.0432076	-.031641	-.003656	-.111537	-.136609	-.108799	-.170816	-.043651	.0149764	-.058535
27	0.007883	-.075782	-.087215	-.097264	.0612152	-.004383	.0957622	.0501931	-.011428	0.127312	-.023138	-.012631	-.062033	-0.09462
28	.0084421	.0797991	.0696693	.0666501	-.022479	.0363228	0.10445	-0.04516	-.008656	-.054997	-.025834	-.040346	.0433668	-.060469
29	-.116797	.0248819	.0682313	.0485918	0.133685	.0376216	.0307897	0.153102	.0048464	.0641679	.0772965	-.062498	-.139244	-.026416
30	0.083256	0.160401	0.104253	.0881826	.0356405	0.109716	-.042451	-.001815	.0167019	0.057178	0.141263	0.145191	.0544032	0.133195
31	-.001502	.0614947	.0349481	.0059088	-0.12904	0.12934	.0341757	.0962362	.0494418	0.11242	.0691539	.0614138	-.030226	.0546244
32	.0876672	0.123551	.0481044	.0718838	0.074453	.0296284	0.130035	.0325471	.0546644	0.13715	.0084166	.0931473	.0187154	.0869116

OBS	V52	V53	V54	V55	V56	V57	V58
25	.0117743	-.023229	.0535844	0.157004	-.013818	.0112098	.0687282
26	-.125893	-.121279	-.084905	-.115043	-.044216	.0096067	.0553888
27	-.008997	-.014614	-.036075	.0105411	-.045127	.0614372	.0630874
28	-.076424	-0.08622	-.007373	.0581248	-.025522	-2.7E-04	.0776301
29	0.023332	.0435435	0.156937	.0992908	0.049217	0.101909	.0632464
30	.0247966	.0293907	.0263355	.0570784	0.109992	-.157531	.0134986
31	-.050625	.0361548	.0186144	0.153107	0.126827	-.165326	.0111552
32	0.121884	.0129763	.0729663	.0381985	0.058436	.0274405	0.085663

OBS	_TYPE_	_NAME_	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12
33	CORR	Q30	.0186646	.0012097	.0164891	.0492866	0.169359	.0055656	.0232505	.0526891	0.175747	0.17769	0.127412	-.153092
34	CORR	Q31	.0855347	0.111568	.0095793	0.149761	.0998076	.0510096	.0622871	.0748999	0.135265	0.190365	0.153561	.0598876
35	CORR	Q32	0.433223	0.287811	0.307608	0.26636	.0342507	0.221428	0.252562	0.243043	0.153912	0.167252	0.217958	0.211926
36	CORR	Q33	0.273754	0.382586	0.38969	0.270329	.0979018	0.246365	0.335614	0.22585	0.210844	0.294255	0.235558	0.222932
37	CORR	Q34	0.268851	0.185962	0.402561	0.06441	.0118994	0.119264	0.064435	0.232452	.0883469	0.113579	0.169876	.0742565
38	CORR	Q35	0.310682	.0578045	0.112549	0.121902	-.049083	.0343412	-9.1E-04	0.141193	.0302452	.0674362	.0772053	.0481199
39	CORR	Q36	0.381059	0.315893	0.321955	0.307838	.0738468	0.211767	0.241878	0.261239	0.153221	0.255513	0.282956	0.1406
40	CORR	Q37	0.213367	0.293304	0.261264	0.253546	0.281702	0.251435	.0551903	0.179968	0.266457	0.263894	0.24691	0.226517

OBS	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20	Q21	Q22	Q23	Q24	Q25	Q26
33	.0536727	-.034731	-.066002	-0.02746	-.002719	.0294508	-0.03289	0.017489	.0806254	0.038057	0.171945	0.342005	.0114282	.0709656
34	0.156734	0.160602	-.039459	.0370791	-.008851	-.001434	0.169539	0.160992	.0573345	0.224211	.0548372	0.230328	.0189277	0.225412
35	0.222612	0.310712	0.169831	0.328086	0.277373	0.22715	0.18909	0.263894	0.169559	0.277904	0.175274	.0425019	.0070853	-.019845
36	0.26159	0.322629	0.279303	0.301811	0.221369	0.258525	0.235408	0.232315	0.283704	0.204426	0.106324	-.058545	-.034513	0.142363
37	0.257353	0.240747	0.14493	0.15638	0.134858	.0537682	0.196212	0.150041	.0540837	0.119326	.0050451	-.136321	-.014825	.0652193
38	0.173333	0.133269	0.10015	0.141676	0.101385	0.132511	0.199023	.0998775	0.088987	.0734492	.0186201	-.045008	-0.09921	.0911616
39	0.354682	0.299923	0.12086	0.206161	0.154322	0.154011	0.23497	0.199473	0.248525	0.252595	0.121051	-.016379	.0056691	.0632903
40	0.163181	0.203483	0.162703	.0500842	0.149973	0.05212	0.241239	.0852685	0.139231	0.200649	0.170805	.0135342	0.10734	0.135509

OBS	Q27	Q28	Q29	Q30	Q31	Q32	Q33	Q34	Q35	Q36	Q37	Q38	Q39	Q40
33	-.036935	-.015292	0.266118	1	0.22756	.0469957	.0044307	.0061402	.0252321	.0804397	0.104576	0.040499	.0517654	-0.03851
34	0.083803	0.287636	0.20317	0.22756	1	0.093445	.0536897	.0499142	0.107858	0.124315	0.160551	0.114846	0.202464	0.161564
35	0.19062	.0725602	0.148398	.0469957	0.093445	1	0.339397	0.230175	0.178962	0.233105	0.152362	0.303321	0.123453	0.113973
36	0.322283	0.280755	0.179277	.0044307	.0536897	0.339397	1	0.349314	0.112688	0.263962	0.245942	0.361086	0.131931	.0302399
37	0.245345	0.116144	0.102635	.0061402	.0499142	0.230175	0.349314	1	0.178827	0.144031	.0622159	0.260532	0.102588	0.112877
38	.0454409	.0299213	.0753958	.0252321	0.107858	0.178962	0.112688	0.17882	1	.0798752	0.159743	.0582494	.0830453	0.161993
39	0.20918	0.206518	0.191474	.0804397	0.124315	0.233105	0.263962	0.144031	.0798752	1	0.387991	0.333705	.0564274	.0555587
40	0.161367	0.179234	0.211735	0.104576	0.160551	0.152362	0.245942	.0622159	0.159743	0.387991	1	0.286778	0.113993	.0343776

OBS	Q41	Q42	Q43	Q44	Q45	Q46	Q47	Q48	Q49	Q50	Q51	Q52	Q53	Q54
33	-.048473	0.141249	.0012845	0.01689	-.066641	-.058629	-.037098	-.086158	-0.00229	0.213777	-.029754	.0368269	.0145719	-.039795
34	.0365816	0.123663	-.015046	.0405581	-.008648	.0886736	.0249509	-.017099	-.003551	.0296191	0.088873	.0599819	0.117474	0.112781
35	.0606056	0.329799	0.105205	0.178568	0.152653	0.230291	0.284045	.0837038	0.157645	0.161911	0.250971	0.236511	0.315985	0.299464
36	.0612652	0.185375	0.163477	0.163409	0.110513	0.214641	0.151746	.0997733	0.166578	.0563635	0.122736	0.289738	0.297305	0.419342
37	.0709985	0.271353	0.215157	0.186603	0.165794	0.162277	0.122572	0.226246	0.288135	0.16118	0.145978	0.231033	.0552937	0.278369
38	.0890014	0.175701	0.170628	0.110841	0.145994	0.161498	0.111981	0.111918	.0854718	0.155672	.0649976	0.178031	0.124922	0.169832
39	-6.8E-04	0.254102	.0791686	.0480694	-.021018	0.252145	0.219622	0.139689	.0785891	0.113243	0.123199	0.217559	0.224671	0.279901
40	-.006087	0.265705	-.032186	0.029271	.0317761	0.133028	0.174708	0.117959	.0345193	.0420442	0.13372	0.162341	0.248542	0.263112

OBS	Q55	Q56	Q57	Q58	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10
33	0.183379	.0381581	.0028199	0.152569	-.056159	.0483132	-.094615	-.078658	-.045972	-.110937	0.167125	.0040117	-0.0551	-.037343
34	.0980204	.0035805	0.135058	0.100407	.0071221	.0736858	-.078161	0.120129	0.12982	.0381572	.0259784	.0133978	.0161287	-.015958
35	0.259002	0.291882	0.425217	0.261226	.0617828	.0870949	.0455666	.0291725	-.007908	.0470574	.0042089	-0.02189	.0975163	.0174912
36	0.304504	0.271995	0.239632	0.227946	0.159908	0.108597	-.125751	-.055878	-.054034	0.100777	.0475189	-.053519	.0992014	.0581533
37	0.266857	0.141507	0.172495	0.1086	.0765181	-.020179	-.124323	.0431483	.0836094	.0636619	.0849274	-.113292	0.136258	0.187943
38	.0711063	0.085037	0.226254	.0997346	0.611534	.0275366	-.056198	.0125376	-0.0144	-.014097	-.043137	.0546182	.0361512	.0533923
39	0.312377	0.210484	0.158277	0.318107	.0012443	.0661481	-.073207	-.112946	-.112875	-.035888	0.152455	-.066729	0.130424	-.019946
40	0.229299	0.106071	.0478591	0.239449	0.050719	7.8E-04	-.107422	-.036222	-0.14024	-.004991	.0210921	-.069491	.0310384	-.064152

OBS	B11	B12	B13	B14	B15	B16	B17	B18	B19	B20	B21	B22	C1	C2
33	0.110931	-.169679	-.147167	-.049649	-.024258	.0759443	-.026603	-.058618	-0.08659	.0572024	.0838924	.0661013	-.042761	-.047741
34	.0481598	.0421912	0.109753	-0.10514	0.203547	0.179996	.0048748	-.025315	.0167817	-.014281	-.019205	.0201873	-.045725	.0761769
35	.0696362	-.119474	-.115366	-.031527	.0740734	.0702719	.0949466	0.161953	0.108872	0.159513	.0513283	.0117753	0.104567	-.009782
36	.0170529	-.033678	-.159713	-.036223	.0963444	0.060465	0.287923	0.122086	.0928605	0.089681	0.099368	.0309972	0.169849	0.143512
37	.0790329	.0285388	-8.0E-04	.0909122	0.107341	.0308786	.0878892	0.170914	0.161349	.0075358	-.001705	-.045251	.0565266	.0841307
38	0.154551	-.036238	.0699661	-.009098	.0293263	-.050149	.0496953	.0353835	0.101961	.0946987	.0588295	0.238881	.0031822	.0336059
39	.0238636	-0.04428	-.122948	-4.8E-04	.0744377	0.10565	0.103924	.0214986	.0718598	.0427548	0	.0026366	.0549221	-.011683
40	.0215161	-0.08247	-.036824	-.062555	-.022492	-.020699	.0779322	-0.01008	-.036783	-.013755	-.010044	.0350214	0.113758	-.019296

OBS	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
33	-.041224	.0642053	-.043004	-.198912	.0177725	-.042868	.0213052	.0844493	.0187251	.0185091	-.015645	.0604673	0.079982	-.011999
34	-.124257	.0460338	.0241543	.0274723	-0.01608	.0061886	.0699306	.0669522	.0526187	0.148248	.0064949	.0551403	0.121404	0.207582
35	.0861977	.0898832	.0488358	.0170337	.0950519	0.039617	0.129809	.0864523	.0396094	0.064423	-.071465	0.1378	.0093345	.0245975
36	0.146859	0.160492	0.109345	.0215113	0.165869	0.105977	0.181417	0.202515	.0756181	.0482991	-.096104	.0950547	.0455944	-.055309
37	0.135651	.0880359	-.072831	-.058785	0.116684	.0025661	0.11482	0.105899	-.054588	.0130123	-.114644	-0.02028	.0194824	-.092425
38	.0863443	.0123339	.0158743	.0329847	-.022829	-.049558	.0233905	.0298315	-.097907	.0747697	-.038733	.0062311	.0386161	.0342123
39	.0914316	-.027684	-.106128	-.057873	.0221638	-.013462	.0979879	-.003298	.0755752	.0405923	-.019899	0.106011	-.006114	-.179084
40	.0567537	-.019329	.0215977	-.016002	.0337584	.0788414	.0366973	.0126323	0.131513	-.088498	-.001542	.0619406	.0343387	-0.02841

OBS	C17	C18	C19	C20	C21	C22	C23	C24	C25	C26	C27	C28	C29	C30
33	.0236183	.0599043	-.007302	.0587916	-.041081	-.023348	-.041057	.0566749	-.065024	-.056283	-.047949	-.077306	-.060833	0.010034
34	.0061955	-.008458	0.092407	0.120041	0.152222	7.2E-04	0.107557	0.171043	-.017341	.0481652	.0782985	.0449685	.0718506	0.102896
35	-.035384	0.125613	.0186049	.0586528	.0036556	0.07[illegible]	.0575572	0.120423	0.119597	-.034566	.0013656	-0.05199	.0915204	0.105408
36	-0.04484	0.125844	0.250899	0.251404	0.210559	0.19602	0.1667	0.212652	0.171241	0.106583	.0728074	-.019292	0.114765	.0987984
37	-1.3E-04	0.204462	0.154772	0.182687	0.129639	0.102579	0.097604	0.113394	.0552218	.0231349	-.017827	-2.2E-04	0.183801	0.155103
38	-.022614	0.115765	0.175927	0.126691	0.104026	.0879974	.0264306	.0547362	0.128363	-.025403	-.038702	.0526898	0.208681	.0935314
39	-.137385	0.187885	0.134623	0.20571	0.154818	0.110196	0.111314	0.108563	.0539638	0.019307	-.049369	-.109566	0.108204	.0886824
40	.0884362	.0915782	.0907543	.0498734	.0928861	-.003853	.0499169	0.108666	.0673664	.0476297	.0453784	-.011453	0.093841	.0354999

OBS	C31	C32	C33	C34	C35	V1	V2	V3	V4	V5	V6	V7	V8	V9
33	.0385604	-.027905	0.132534	0.026319	0.159745	.0374352	-.071768	0.116108	-.094507	0.104825	.0494364	.0086047	.0978148	-0.03006
34	0.151136	.0280097	-.025563	-.061689	0.167253	.0895964	-.048304	.0108217	-.079712	.0920552	-.038279	.0279246	.0861065	.0634183
35	-.019708	-.027559	0.109098	-.013993	.0596797	-0.00641	0.124274	0.203507	.0904786	.0660208	0.153192	.0562072	.0393905	.0811806
36	-.055307	-.019167	.0810132	.0454049	-.029399	.0089325	.0859696	0.113409	.0919358	0.079368	.0746298	0.110375	0.116507	0.16648
37	.0383637	-0.06598	.0211999	.0777969	.0630083	0.144432	.0467273	0.138932	0.115407	.0175742	.0120961	.0925539	.0884293	-.030619
38	0.132594	0.088648	.0833448	0.124504	.0108612	0.121851	.0799593	0.100722	0.109145	-.004431	.0730762	.0659042	.0585078	0.062568
39	-.051918	0.114547	.0329104	-.054718	-.059401	-.039106	0.120864	0.133829	.0422262	.0381948	0.100404	0.118859	0.128522	.0049606
40	-.056615	.0965405	0.120924	.0188838	0.103345	0.024478	.0786697	0.109311	-.016666	0.113067	0.145391	.0484179	.0619408	0.146602

OBS	V10	V11	V12	V13	V14	V15	V16	V17	V18	V19	V20	V21	V22	V23
33	.0709131	.0541356	.0020276	.0487642	.0255558	-.025278	-.028416	-.040488	-.014282	-.029602	.0257431	.0451311	.0443408	-.027086
34	0.129721	.0696308	-.024474	0.117997	0.166338	-.016895	.0613595	.0260352	-.065222	.0246201	.0915925	.0936488	.0873652	.0891391
35	-0.02139	-.031274	.0198834	.0751855	.0401597	0.114613	0.133591	0.106549	.0857896	.0530487	.0592029	0.065925	.0046435	-0.01228
36	.0442235	0.174853	0.140775	.0976422	0.106681	0.101703	0.139566	.0994328	.0905632	0.113948	0.184414	.0573868	0.176314	0.084234
37	.0173593	.0985931	-.015944	0.143737	.0697585	.0725362	.0332988	.0715797	.0020645	.0598836	.0841473	.0358073	.0839853	-.123159
38	0.116678	0.1722	-.008136	0.102844	0.10585	.0642741	.0864848	.0519995	-.013449	.0415634	.0080475	0.107103	.0122524	-.009596
39	.0828477	0.108712	.0752556	0.106964	.0613177	0.114534	.0688266	.0739819	.0288715	0.163679	0.111468	-.015834	.0061925	-.033095
40	.0483588	.0820585	-.068796	.0520122	0.111758	0.098277	.0897078	.0046361	-.027528	.0106521	.0403315	0.084395	0.013497	0.037639

OBS	V24	V25	V26	V27	V28	V29	V30	V31	V32	V33	V34	V35	V36	V37
33	-.013967	-.119181	-.007366	-.079053	-.150274	.0558949	0.291913	0.103934	-.105325	.0633389	-.057361	-.010719	0.108455	.0675968
34	0.033962	.0614339	0.170739	.0875342	.0213166	.0583019	0.110216	0.246471	-.017632	.0482118	.0851397	.0708333	.0592621	0.058663
35	-.019937	.0841585	.0071117	-.045849	-.070023	.0301285	-.053151	-.013055	.0932703	.0866936	0.146893	0.16068	-.087207	.0710197
36	.0231567	.0090715	.0348753	.0347796	-.013546	-.001637	-.031976	.0044866	.0873899	0.113887	0.126923	0.189609	.0629772	0.155046
37	-.168261	-.065246	-.050422	.0413181	-2.2E-04	-0.09216	-.119873	.0456671	0.179054	.0639965	0.237761	0.162591	.0845535	-.031882
38	.0333733	.0711787	0.046347	-.021501	-.049619	-.068143	-.008307	.0231262	0.142992	.0770667	0.131609	0.256594	.0733654	0.093434
39	-0.05151	-.053032	-0.03101	.0068306	.0016316	.0150146	.0183339	-7.3E-04	.0776867	0.146036	.0947217	.0677662	0.120227	0.103669
40	.0363038	.0123802	.0831585	0.035726	.0795897	.0058128	0.112387	.0538379	.0384299	.0953566	.0625501	0.115971	0.309753	0.311004

OBS	V38	V39	V40	V41	V42	V43	V44	V45	V46	V47	V48	V49	V50	V51
33	.0941086	-.015161	-.025997	-.002594	.0579754	-9.06775	0.108326	.0097739	-.014683	0.107968	-.007867	.0832882	.0436854	.0161207
34	-2.9E-04	0.169738	.0989852	.0722246	.0929156	.0569545	.0526597	.0382828	-.014567	.0257017	-.00352	.0490789	-.035751	.0600678
35	.0780054	.0420315	.0082727	.0218154	.0267508	0.136673	0.153109	.0207393	.0158082	.0775383	7.8E-04	.0763819	.0817716	.0699757
36	0.13631	.0627638	.0308279	.0880416	.0433823	0.221458	0.129869	.0889284	.0873549	0.13385	.0042684	0.133197	.0752295	0.128875
37	-.010207	0.166164	0.154179	0.141411	0.028066	.0735072	-.011744	.0350708	.0973183	.0693645	.0255454	0.151817	0.180567	0.121027
38	-.003814	0.121406	.0835914	.0011271	.0293474	.0228377	-.015181	0.004177	.0582539	.0971376	.0496132	0.073458	.0656495	.0715622
39	.0388704	.0294451	.0100582	.0038385	-.028645	.0846405	0.12201	.0816817	.0304003	.0772133	.0312562	.0488048	.0281419	.0890729
40	0.235166	.0752438	.0548638	.0339808	0.100597	.0687823	0.115032	.0114516	0.101827	.0464497	-.034398	-.047186	.0140777	-0.0026

OBS	V52	V53	V54	V55	V56	V57	V58
33	-0.111	-.036054	.0505218	.0152059	.0655349	0.135641	.0357927
34	.0335149	.0385287	0.146682	0.104746	.0811067	0.139371	.0116302
35	.0615665	.0231401	.0867678	.0921287	0.104651	.0623423	0.109572
36	.0704498	0.10939	.0958039	0.167961	0.212934	-3.7E-04	0.16989
37	.0932014	.0297568	0.188969	0.108863	0.174488	-.027938	1.3E-04
38	0.129513	.0725184	.0642554	.0243131	.0656318	0.152795	.0812726
39	.0716429	.0804946	.0433435	0.190772	0.111163	.0105919	.0748721
40	.0897991	.0628969	.0062186	0.132102	.0872345	0.148228	0.209732

OBS	_TYPE_	_NAME_	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12
41	CORR	Q38	0.381547	0.531941	0.43945	0.467314	0.310508	0.487783	0.308052	0.365347	0.266192	0.430369	0.334187	0.28237
42	CORR	Q39	.0427247	0.147985	.0227605	0.128658	.0962276	0.109754	.0900798	0.213206	.0483533	0.258982	0.112854	0.196218
43	CORR	Q40	.0898533	.0497085	.0317099	-.070459	-.028004	0.101681	.0120202	.0933701	.0517062	0.177332	0.119096	0.133982
44	CORR	Q41	.0216836	.0752734	.0217218	.0148032	-.035301	.0266293	0.132406	0.10831	-0.05968	0.193126	0.128105	0.16316
45	CORR	Q42	0.290864	0.192991	0.281493	0.219621	.0778887	0.157321	0.116838	0.220441	.0446053	0.236361	0.200319	0.189918
46	CORR	Q43	0.073775	0.122227	0.110491	0.205671	0.017275	.0670601	0.192893	0.206405	.0777133	0.166991	.0858579	.0783483
47	CORR	Q44	0.113491	0.102584	0.134281	0.135049	0.017779	0.129396	0.174465	0.182381	.0633115	0.165795	0.150934	.0885867
48	CORR	Q45	0.143595	0.132499	0.143549	.0976394	-.075848	0.173949	.0962123	.0622963	.0057899	.0424526	0.178578	0.084788

OBS	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20	Q21	Q22	Q23	Q24	Q25	Q26
41	0.323599	0.459114	0.182752	0.305825	0.240625	0.236614	0.300333	0.297646	0.261586	0.300752	0.209391	.0461705	-.029463	.0664145
42	0.167173	0.128529	0.153691	0.215871	.0181461	0.167891	0.242535	.0957167	0.188846	.0690142	.0934024	-.002601	-0.0295	.0688904
43	0.14189	0.056087	0.131347	0.101384	.0635139	0.102311	0.173481	.0636944	0.121715	.0411884	.0122657	-.042781	-.003091	.0462851
44	0.131235	.0833485	0.129836	0.131607	.0396574	.0794256	0.133192	.0141147	0.112303	.0040507	-0.07722	-.069787	-.087093	.0914599
45	0.185549	0.14437	0.141282	0.1376	.0443884	0.135851	0.298158	0.16043	.0793872	0.140844	0.15829	.0328186	0.179678	0.172375
46	0.120297	0.151361	.0464221	0.348774	0.227234	0.212648	0.128173	0.191127	.0301411	.0945098	-.021373	-.088319	-.123368	-.009454
47	.0851313	0.206261	.0769724	0.133936	0.158543	0.249216	0.111096	0.114427	.0173719	-.015105	0.013785	.0243322	-.019695	.0932173
48	0.108516	0.12416	0.04239	0.025434	.0974205	0.17593	.0821201	.0015653	.0512889	-.018968	-.015402	-.062165	-.058717	0.094349

OBS	Q27	Q28	Q29	Q30	Q31	Q32	Q33	Q34	Q35	Q36	Q37	Q38	Q39	Q40
41	0.309575	0.253594	0.215046	0.040499	0.114846	0.303321	0.361086	0.260532	.0582494	0.333705	0.286778	1	0.157605	.0448049
42	0.269751	0.242263	0.097089	.0517654	0.202464	0.123453	0.131931	0.102588	.0830453	.0564274	0.113993	0.157605	1	0.346997
43	.0720081	0.100368	.0491942	-0.03851	0.161564	0.113973	.0302399	0.112877	0.161993	.0555587	.0343776	.0448049	0.346997	1
44	.0048774	.0788833	-0.01171	-.048473	.0365818	.0606056	.0612652	.0729985	.0890014	-6.8E-04	-.006087	-.021836	0.238352	0.423556
45	0.158779	.0531727	0.25138	0.141249	0.123663	0.329799	0.185375	0.271353	0.175701	0.254102	0.265705	0.201069	0.152602	0.179279
46	0.108648	.0888542	-.010167	.0012845	-.015046	0.105205	0.163477	0.215157	0.170628	.0791686	-.032186	0.164717	.0224598	-.068056
47	.0713391	.0977032	.0138724	0.01639	.0405581	0.178568	0.163409	0.186603	0.110841	.0480694	0.029271	0.143688	.0312683	-0.00127
48	.0357132	.0383044	.0235725	-.066641	-.008648	0.152653	0.110513	0.165794	0.145994	-.021018	.0317765	0.122815	-.095759	.0267801

OBS	Q41	Q42	Q43	Q44	Q45	Q46	Q47	Q48	Q49	Q50	Q51	Q52	Q53	Q54
41	-.021836	0.201069	0.164717	0.143688	0.122815	0.279153	0.164271	0.320264	0.15328	0.232817	0.200881	0.298578	0.268363	0.337313
42	0.238352	0.152602	.0224598	.0312683	-.095759	.0842593	0.075592	.0412383	.0102711	.0934425	0.171943	0.124467	.0312171	0.289173
43	0.423556	0.179279	-.068056	-0.00127	.0267801	.0637427	-.029889	.0589667	.0412852	.0470045	0.112259	0.08866	.0202243	0.216495
44	1	.0743793	.0751437	.0155601	0.159886	0.108743	.0410292	0.124334	.0312989	.0337052	0.147955	.0161214	-.016805	0.213835
45	.0743793	1	.0556538	.0841471	0.178788	0.12465	.0560607	.0499272	.0761829	0.215972	.0000714	0.169571	0.172511	0.19617
46	.0751437	.0556538	1	0.520876	0.344405	0.201263	0.248077	0.206413	0.22553	0.176279	0.175545	0.315083	0.21125	.0396311
47	.0155601	.0841471	0.520876	1	0.496257	0.263933	0.196861	0.267128	0.276956	0.149193	0.197325	0.312925	0.21125	0.022939
48	0.159886	0.178788	0.344405	0.496257	1	0.198368	0.144546	0.157018	0.156222	0.186253	0.141463	0.190453	0.146062	.0078256

OBS	Q55	Q56	Q57	Q58	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10
41	0.312865	0.278579	0.280494	0.377643	.0881094	.0535391	.0863144	-.052668	.0485952	.0387643	0.120242	-.020668	-.006917	.0261911
42	0.113094	0.17994	0.209076	0.10859	-0.14429	-.004277	-.008334	.0839516	.0540761	0.036919	-.039502	-.120457	.0021921	-.009677
43	-.002054	0.19375	0.197045	.0071674	-.077871	-.015079	-.005427	0.178326	0.152114	.0082389	-.005707	-.073351	.0396569	-.088234
44	.0077042	0.141774	.0934312	.0176997	-.030683	-.158777	.0978541	.0441467	.0947807	-.032164	-.130567	-.109303	-.018156	-.055185
45	0.175407	0.12257	0.32329	0.134339	.0309192	.0691873	-.025994	.0367042	-.020316	.0148741	-.013337	.0036218	.0453245	.0045624
46	0.403228	0.347423	.0533034	0.177678	0.113643	-.089608	0.112362	-0.0327	.0567123	.0053829	-.033656	-.074215	0.069462	0.158786
47	0.256404	0.185979	.0621497	0.105095	0.120877	0.125122	.0360902	.0802715	.0633848	.0701506	.0728508	0.038019	.0392841	0.150866
48	.0900708	0.100411	0.105503	.0753804	.0548801	.0470597	-.001404	.0787277	.0598272	.0783793	-.011465	.0799587	.0294857	0.10567

OBS	B11	B12	B13	B14	B15	B16	B17	B18	B19	B20	B21	B22	C1	C2
41	.0142017	-.024069	-.067149	.0086903	0.102425	.0543401	0.187675	.0894936	.0248602	0.140523	0.06224	.0587966	.0075677	-.039015
42	-.014751	.0655423	.0755434	0.011363	-.039611	0.121071	-.103837	-.079415	-.076246	-.045035	-.024683	-.121788	-.010204	-.036271
43	-.102118	-.058806	-.004811	-.021156	-.065603	-.006952	-.145517	-.004163	-.011988	-.094995	-.116652	-.102055	-.033662	-.085475
44	.0173202	-.083636	-.095432	.0856608	-.056126	-.058522	-.149028	-.008308	-.006996	-.035226	-0.1531	-.036925	.0218961	.0276858
45	.0356073	-.092123	-.117846	-.029574	.0075479	.0459968	0.11214	0.115048	.0736732	.0805412	.0825236	-.021432	.0625012	0.108101
46	0.114496	.0732962	-.009831	.0523833	.0620059	.0238241	.0112477	0.137138	.0198528	.0599309	.0719121	0.133277	.0409336	0.218257
47	0.072926	0.145301	-.037268	.0047316	.0910605	0.143353	0.103514	0.178194	0.107254	0.11853	0.165135	0.165002	.0739499	0.213301
48	.0197849	.0439221	-.095812	-.007763	.0639563	.0508048	.0289024	0.141578	.0874205	.0679979	.0491116	0.182705	.0712103	0.148149

OBS	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
41	0.088397	0.100271	.0217054	0.00156	0.027781	.0628045	0.239702	0.196355	0.117917	.0860595	-.043026	.0725869	.0277717	-.057491
42	-.077908	.0830473	-.055539	-.027752	-.119689	-.021349	.0831257	-.043503	-.060047	-.030799	.0189917	-6.5E-04	-.034289	.0107594
43	-.057205	-.029033	.0728029	.0207379	-.058188	-.067476	-.013499	-0.16588	-.106667	.0500134	.0298476	-.073695	-.031613	-.021157
44	.0318245	.0264829	.0449992	.0302414	-.027559	-0.00335	2.2E-04	-.077012	-.128631	.0095457	.0802566	-.057553	-0.06399	-.058821
45	.0192641	.0737337	.0308645	.0185834	.0906576	.0543578	.0817732	.0110432	.0677397	.0336221	-.003798	.0773847	.0964854	-.095547
46	0.1324	0.251087	.0730831	0.004259	.0635862	.0984166	.0367515	.0725931	.0189633	0.176675	.0789552	-.086898	-0.00272	.0318771
47	0.175365	0.286335	0.124488	.0915347	.0837523	.0431023	0.09563	.0259444	.0494136	.0812459	0.112949	.0971517	-0.06509	.0359076
48	0.151022	.0846092	0.141024	.0110834	.0462134	.0374255	0.073429	.0497086	.0758776	.0452239	.0282549	.0229896	-.036392	-.014667

OBS	C17	C18	C19	C20	C21	C22	C23	C24	C25	C26	C27	C28	C29	C30
41	-.046888	0.148277	0.152764	0.167995	0.183368	0.13421	0.160521	0.169435	0.114533	.0737943	0.055877	-.030662	.0292013	0.248073
42	-.011848	-.019527	.0135534	-.031469	-.022806	-.058941	-.042015	.0145293	.0012407	-.049815	-.021037	-.040311	.0436722	0.037843
43	-.113659	-.137945	-.061899	-.044934	.0617041	-.140638	-.024727	-.066661	-.055776	-.072489	-.054138	-.015314	.0672063	-.004683
44	-.067342	-.044314	-.112154	-.016703	.0085865	-.131078	.0143312	-.046721	-.093166	-.127939	-.086178	-.140459	.0367887	-.095797
45	-0.10634	0.149702	.0996308	0.113852	.0352174	.0917091	.0422668	.0810858	0.165697	-.053155	-.033883	-.014995	0.104579	.0751205
46	-.042502	0.17889	.0802919	0.167303	.0852981	0.129813	.0497335	.0555149	0.108898	.0518494	0.103732	0.110609	0.104156	0.100131
47	-.016202	.0962784	.0364658	0.155447	0.15141	0.170977	.0908926	0.102351	0.110711	0.149538	0.174052	0.142539	0.123946	-.030385
48	.0056411	0.102419	-.047834	.0730256	.0824576	.0119942	.0097698	-.030199	.0482248	.0728436	0.121152	-.036163	.0087142	-.114876

OBS	C31	C32	C33	C34	C35	V1	V2	V3	V4	V5	V6	V7	V8	V9
41	-.042819	.0177808	.0740393	-.048084	.0374579	-.021804	0.077331	0.096584	0.110086	0.149628	0.107017	0.155949	.0508331	.0223385
42	-.006704	.0236444	-.012098	-.100184	.0573187	-.011612	-.078594	-.005207	-.114123	-0.055	-0.06231	-.018943	.0434729	.0185674
43	.0751577	.0324519	-0.0098	-.038568	.0350848	.0170675	-.051108	-.005913	-.168506	-0.04881	.0134191	.0540874	-.035799	-.046269
44	-.003704	-.017153	.0343954	-.082413	.0986812	.0508407	-.105434	-.125051	-.071177	-.069507	-.175599	-0.08419	-.042066	-.005826
45	.0495586	-.014652	0.174017	.0199541	.0699063	0.054304	0.113399	0.206065	.0959258	0.115142	0.136469	.0874637	0.105619	.0184769
46	.0389609	-.005777	.0810051	.0716148	0.105321	0.144223	.0835981	.0403449	0.187484	.0492027	-.040168	.0482363	.0889649	.0656413
47	-.017153	-.038223	.0861454	-.002849	.0437699	0.125545	0.117921	0.172258	0.117626	.0136079	.0135309	.0504246	-.089342	0.12774
48	-.037987	-0.11393	-7.4E-04	0.006557	-.017793	.0956912	.0191762	.0687061	.0695886	0.013914	-.033193	.0514562	-.086425	0.01326

OBS	V10	V11	V12	V13	V14	V15	V16	V17	V18	V19	V20	V21	V22	V23
41	.0022173	.0915782	-.087599	0.104576	.0720017	.0772259	0.136968	.0896557	.0843727	0.119476	.0996159	-.034592	0.119273	0.015742
42	0.010797	-.051079	-0.0915	.0603032	.0503025	-.002242	-.046841	-.043308	-.090672	.0050197	-.002291	-.096399	0.042756	.0600788
43	.0017998	-.027096	-.056866	.0242261	.0690519	-.090948	-.105461	-.103862	-.121942	-0.04216	-.084346	.0573374	-.091956	.0753193
44	0.126255	.0844305	.0011254	-.029038	.0021566	.0410699	.0566464	-.007439	-.012976	.0331076	-.035949	.0077425	-.013424	.0596282
45	0.049795	.0654018	.0934655	0.169025	.0588171	0.177924	.0578418	0.092696	.0141309	.0253556	.0427114	.0900572	.0416748	-9.4E-04
46	.0195355	0.111455	0.123337	0.15948	.0141571	.0705276	.0992179	0.125678	0.142189	0.120324	.0675953	.0511784	0.129551	-.047892
47	0.1042	0.137457	0.140576	0.207787	0.110365	0.148477	0.196879	0.195855	0.163083	0.193246	0.101138	.0711365	0.11245	-.038715
48	.0966603	0.158538	.0351584	0.138927	.0764174	.0510857	0.125871	-.034635	-.075139	.0321645	-.076147	0.117583	-.020728	-1.1E-04

OBS	V24	V25	V26	V27	V28	V29	V30	V31	V32	V33	V34	V35	V36	V37
41	.0040095	0.004088	.0731179	-.008807	-.005007	0.033407	-0.05916	.0314951	0.10473	.0691047	0.130812	.0460475	0.101325	.0406269
42	0.138075	-.016015	.0777602	-.056326	.0032395	-0.07127	-.028127	.0100837	.0460198	-0.08332	-.012813	.0764525	.0233367	-.049264
43	.0059817	0.104119	.0320938	-0.13351	-0.08704	-.140715	.0049739	-.016448	.0951011	-0.0634	0.11152	0.139757	-.001293	0.008308
44	0.148843	-.015911	-.089738	-0.14108	-.113686	-.139599	-.146451	.0129386	.0288932	-.044204	-.001145	0.110091	.0024274	-.093779
45	.0127481	.0831237	.0484877	-0.07938	-.058771	-.039991	-.014138	.0363498	0.100411	0.118158	0.148586	0.251393	0.134534	0.124771
46	0.170197	-.005987	.0015015	0.126887	0.103258	-.054071	-.059349	.6797866	.0819913	0.12311	0.104713	.0101671	-.035466	-.120722
47	.0499129	.0685496	0.008551	0.186875	0.124617	0.100371	-.036656	.0406632	0.16232	0.131271	0.155272	.0446443	.0413914	-.026236
48	-.043736	.0617299	-.002173	.0615781	.0497825	0.009276	-.071776	0.125335	0.160305	0.105018	0.113248	.0776287	.0287647	-0.02105

OBS	V38	V39	V40	V41	V42	V43	V44	V45	V46	V47	V48	V49	V50	V51
41	.0789314	0.118034	.0707507	0.125182	0.068596	0.142413	0.076678	-.009289	0.150269	0.148352	-.041395	.0780405	0.10055	.0636596
42	-0.08365	0.27673	0.193908	0.180904	.0502173	-.077672	-.115459	-.051535	-.122667	-.153465	-0.09157	-.093907	-0.04433	-.075876
43	.0359532	0.212133	0.202918	0.197972	0.156288	-0.06926	-.122908	.0422749	-.052531	-.120552	-.070277	-.142455	-.047042	-.086953
44	-.040083	0.121897	0.149496	0.158568	.0658969	.0209831	-.044165	0.134317	-.044558	-.107796	-.032004	-0.08659	-.020724	-.077814
45	0.16364	0.166135	0.137185	0.116602	0.227763	-.004686	0.027997	-.007684	-.002232	.0286846	0.100218	.0295864	0.139114	-.015236
46	-.099211	-.021975	-.044305	-.048532	-.055704	0.150097	.0989808	0.180519	.0745814	0.199864	0.118686	0.137021	0.192693	.0889112
47	-.116776	0.015761	.0121863	.0090446	0.109407	0.182545	0.130317	0.236559	0.152985	0.156141	0.101186	0.153215	.0902715	0.108556
48	0.055	-.012589	-.050131	-.047677	.0993171	.0476627	.0367036	0.184597	.0658841	0.038124	.0301513	.0825403	0.122228	-.004469

OBS	V52	V53	V54	V55	V56	V57	V58
41	0.160383	.0135871	.0300808	0.112707	0.127199	-.027268	0.187051
42	-.062066	-.106013	.0749872	-.012562	.0278369	.0485592	-0.08656
43	-.063306	-.155977	0.060489	-0.06307	-0.03396	0.171168	-.003808
44	-.028922	-.056527	.0511244	-0.007	-.016775	0.102968	-.021806
45	-.029894	-0.03316	0.200869	0.162489	0.2057	0.156919	0.150115
46	0.182297	0.262739	0.044906	.0831109	.0676646	-.006175	.0300899
47	0.278375	0.296501	0.124115	0.16799	0.133947	.0839966	.0836992
48	0.149966	0.117383	.0542071	0.106591	.0137186	.0400587	0.138078

OBS	_TYPE_	_NAME_	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12
49	CORR	Q46	0.272483	0.407082	0.381548	0.25887	0.160155	0.288195	0.31226	0.318757	0.053574	0.211344	0.357846	0.182305
50	CORR	Q47	0.19278	0.212716	0.263131	0.306419	.0136824	0.280825	0.100018	0.177298	-.023565	.0891961	0.178593	0.253106
51	CORR	Q48	0.105818	0.330314	0.381055	0.332049	0.1432	0.213742	.0856697	0.284533	.0458696	0.23369	0.275238	0.159578
52	CORR	Q49	0.127219	0.216656	0.337528	.0640079	0.105179	0.16225	0.193314	0.126215	.0385812	0.119351	0.16608	0.237325
53	CORR	Q50	0.171306	0.223337	0.25923	0.246998	0.151874	0.213942	.0618297	.0786039	.0932124	0.218261	0.164973	.0815999
54	CORR	Q51	0.134063	0.233532	0.193123	0.158611	.0600369	0.25121	0.150607	0.130661	.0559944	.0955606	0.21238	0.198163
55	CORR	Q52	0.154778	0.266216	0.305705	0.190619	0.102193	0.199624	0.298727	0.12444	0.223544	0.229959	0.158492	0.186099
56	CORR	Q53	.0649296	0.236477	0.193111	0.256918	0.123093	0.205409	0.151854	0.147191	0.277497	0.183576	0.186805	0.187978

OBS	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20	Q21	Q22	Q23	Q24	Q25	Q26
49	0.24949	0.341133	0.100188	0.304763	0.12523	0.168307	0.229979	0.120679	0.165143	0.190709	-0.02186	-.01[illegible]	-.108633	-0.00742
50	0.263903	0.305202	5.0E-04	.0839136	0.186313	0.133091	0.103288	.0901336	.0294886	0.185918	.0892975	-.09[illegible]	-.025849	-.111635
51	0.154708	0.226094	.0636999	.0784057	0.205967	0.226112	0.236166	0.150848	.0970676	0.174346	-.004607	-.037[illegible]	-0.10148	-0.11754
52	0.116081	0.287686	0.172409	0.170611	0.231632	0.240853	0.202206	0.176972	0.142941	0.102463	-0.04662	-0.04135	-.098669	-.066343
53	.0754824	0.182	0.082857	0.149067	0.142412	0.268542	0.141539	0.130364	0.153963	0.165405	0.10902	0.177125	-.031322	-.084894
54	0.135677	0.241238	0.139335	0.2286	0.170584	0.188262	0.247197	0.183847	.0556414	.0902742	.0164052	.0123784	-.105088	-.017287
55	0.199449	0.292488	0.289023	0.410678	0.290566	0.359491	0.284969	0.284447	0.257335	0.193985	.0299983	-.095193	-.066935	.0879377
56	0.17006	0.195573	0.151793	0.392212	0.336523	0.306887	0.137569	0.253192	0.211791	0.25121	0.134535	.0815428	-.080212	0.060685

OBS	Q27	Q28	Q29	Q30	Q31	Q32	Q33	Q34	Q35	Q36	Q37	Q38	Q39	Q40
49	0.194893	0.136253	0.111748	-.058629	.0886736	0.230291	0.214641	0.162277	0.161498	0.252145	0.133028	0.279153	.0842593	.0637427
50	0.136248	0.11582	-.005872	-.087098	.0249509	0.284045	0.151746	0.122572	0.111981	0.219622	0.174708	0.164271	0.075592	-.029889
51	0.14732	0.150021	0.049087	-.086158	-.017099	.0837038	.0997733	0.226246	0.111918	0.139689	0.117959	0.320264	.0412383	.0589667
52	.0273484	-.038674	-4.6E-04	-0.00229	-.003551	0.157645	0.166578	0.288135	.0894718	.0785891	.0345193	0.15328	.0102711	.0412852
53	.0498823	-.031559	0.180573	0.213777	.0296191	0.161911	.0563635	0.16118	0.155672	0.113243	.0420442	0.232817	.0934425	.0470045
54	0.136306	0.194473	.0046558	-.029754	0.088873	0.250971	0.122736	0.145978	.0649976	0.123199	0.13372	0.200881	0.171943	0.112259
55	0.133029	.0565483	.0131227	.0368269	.0599819	0.236511	0.289738	0.231033	0.178331	0.217559	0.162341	0.298578	0.124467	0.08866
56	0.242469	0.256527	0.194575	.0145719	0.117474	0.315985	0.297305	.0552937	0.124922	0.224671	0.248542	0.268363	.0312171	.0202243

OBS	Q41	Q42	Q43	Q44	Q45	Q46	Q47	Q48	Q49	Q50	Q51	Q52	Q53	Q54
49	0.108743	0.12465	0.201263	0.263933	0.198368	1	0.250246	0.320814	0.292911	0.23403	0.26549	0.316411	0.261635	0.205113
50	.0410292	.0560607	0.248077	0.196861	0.144546	0.250246	1	0.345667	0.283666	0.234392	0.246328	0.230704	0.113335	0.246766
51	0.124334	.0499272	0.206413	0.201128	0.157018	0.320814	0.345667	1	0.295956	0.210109	0.184341	0.245708	0.235288	0.206109
52	.0312989	.0761829	0.22553	0.276956	0.156222	0.292911	0.283666	0.295956	1	0.377562	0.192784	0.319959	0.111323	0.105135
53	.0337052	0.215972	0.176279	0.149193	0.186253	0.23403	0.234392	0.210109	0.377562	1	0.151574	0.253733	0.120553	0.104307
54	0.147955	.0800714	0.175545	0.197325	0.141463	0.26549	0.246328	0.184341	0.192784	0.151574	1	0.217531	0.15025	0.205003
55	.0161214	0.169571	0.315083	0.312925	0.190453	0.316411	0.230704	0.245708	0.319959	0.253733	0.217531	1	0.345925	0.189605
56	-.016805	0.172511	0.21139	0.21125	0.146062	0.261635	0.113335	0.235288	0.111323	0.120553	0.15025	0.345925	1	0.127998

OBS	Q55	Q56	Q57	Q58	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10
49	0.273386	0.176351	0.232495	0.255936	.0751374	0.07611	-.103608	-.034325	.0378459	-.045786	-.011325	.0197221	0.130911	0.119501
50	0.220898	0.226565	0.147545	0.175695	.0492046	-.009871	-.059373	-.015946	-.115375	.0187323	-.128856	-.058092	.0398063	-.016248
51	0.178475	0.206237	.0687494	0.22234	0.123474	-.041117	.0451137	-.061687	-.081683	-.089186	-.001039	-.042523	.0177649	.0467153
52	0.2224	0.166331	.0797443	.0983705	.0947903	0.150732	-.055698	-.014889	-.060859	.0858143	-.020588	.0784391	.0542995	.0993649
53	0.148662	0.242098	0.22573	.0997821	.0503559	0.129668	.0257747	-.159861	-.148607	-.059127	.0488847	.0802981	-.017452	0.136298
54	0.137689	0.207163	.0752857	0.148965	.0549029	.0199714	.0717483	-.049131	0.108159	.0275283	-.063967	-.022207	-.055532	-0.08105
55	0.367894	0.441623	0.2251	0.182836	.0939941	.0121205	-.035163	-0.04778	.0244586	.0249519	.0238014	-2.4E-04	.0797368	.0737234
56	0.238821	0.322834	0.179311	0.221061	-.044635	-.005405	0.1112	.0277147	-.001957	.0610177	-.026031	-.012762	-.019331	.0507224

OBS	B11	B12	B13	B14	B15	B16	B17	B18	B19	B20	B21	B22	C1	C2
49	.0784866	.0035059	.0256014	-.095909	0.085339	.0738179	.0825489	-.029311	-0.03001	.0060364	.0598872	0.056936	-.081741	.0120507
50	.0463197	-.115205	-.105879	-.016886	-7.2E-04	.0404686	.0735093	.0893163	.0904386	.0472967	.0030661	.0801096	.0013677	.0281352
51	.0954744	.0615187	-.026209	.0544595	0.062762	.0984393	.0649386	.0014652	.0669803	.0682366	.0030301	.0260375	-.057876	-.056259
52	.0659762	3.5E-04	-0.05284	.0046073	.0172705	.0579619	0.113516	0.160923	0.13874	.0818137	0.151019	0.11715	.0681187	.0743428
53	0.245152	-.052616	-.048862	-.017875	.0099581	.0871719	.0874774	.0519499	.0031799	.0645373	.0800868	0.125363	-.036852	-.030719
54	.0234215	-.010763	-0.09351	-.033648	.0669914	0.10916	0.053276	-.033657	-.005948	0.134569	0.169317	.0296304	.0934386	0.009557
55	.0837829	.0162862	.0285287	.0103741	.0493179	0.03563	.0842755	.0764426	.0552515	-.006413	0.163413	.0645453	.0530804	.0190496
56	0.19999	.0031853	.0053953	.0241279	.0920617	.0903422	0.0626	0.111908	0.108912	0.148448	0.103276	0.149099	.0906429	-.015032

OBS	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
49	0.075684	0.100429	-0.07227	-.077601	-.011956	.0880297	0.130979	-.028854	-.160771	.0285044	-.154782	0.164278	-.046946	.0846796
50	.0705028	.0078363	-.006152	0.027277	-.020755	0.155027	0.092891	0.10481	0.129448	0.100767	-.052457	-0.01845	0.036932	-.018995
51	.0978362	-.044784	-.043531	-.064643	-.031401	.0637439	.0868774	-.059302	0.026609	.0516094	-.003533	0.032478	0.012047	-.011082
52	-9.7E-04	0.112754	.0817922	.0429592	.0497057	-.020708	0.211174	0.071918	-.102053	.0442836	-.063069	0.112061	-.043165	-.044719
53	.0097107	0.053956	.0163279	-.018726	.0046515	0.072981	0.213362	0.104527	-0.03264	.0309698	-.076861	.0468381	.0456961	-.089205
54	.0750434	.0573454	.0480419	.0373031	-0.00809	.0075836	0.063318	.0722969	.0451676	0.044	-.044415	-0.01305	.0366994	.0522085
55	.0224437	0.101974	-.009931	0.037006	-.007506	-.006899	.0985333	.0787638	0.035051	.0914055	-.060484	-.026877	0.016557	-.075259
56	.0970826	0.100431	0.018378	.0609142	.0956921	-.018143	.0354784	.0909419	0.120296	0.134214	-.055956	.0653853	.0282819	-1.4E-04

OBS	C17	C18	C19	C20	C21	C22	C23	C24	C25	C26	C27	C28	C29	C30
49	.0307999	.0725314	.0801887	0.118805	0.157942	.0500634	-.012994	.0203386	0.113328	.0581619	.0857142	.0023022	0.124237	0.200092
50	-.081013	0.156699	-.011266	0.116205	.0954015	0.100368	.0580975	.0551502	.0549709	.0201972	.0476622	-.005587	.0398071	0.104572
51	-.044204	0.042881	-.045435	0.037211	.0264333	-.002992	.0066093	-.067991	-.083169	.0859655	.0831886	.0469028	-.012618	.0517191
52	.0499211	0.123526	.0637474	.0587523	.0046649	.0777246	.0172841	.0882067	0.073621	.0729468	.0840669	-.001553	0.115644	0.202031
53	.0234274	0.17267	-8.6E-04	0.10448	.0281213	.0949378	.0358428	.0786341	.0667488	-.072626	-.028714	-.051132	.0095799	0.109934
54	.0794392	.0018844	.0589867	.0429499	0.141633	.0693232	.0945625	0.126488	.0808086	-.093319	.0212567	-.088712	-.068837	-.012183
55	-.039587	.0427934	0.239182	0.242234	0.15465	0.124016	.0462146	0.120508	0.264133	0.113514	0.131497	.0884459	.0801018	.0446262
56	-.025269	.0915516	0.101419	0.104223	.0642343	0.105734	.0379209	.0430548	.0447293	.0983101	0.133213	0.137303	.0278361	.0657015

OBS	C31	C32	C33	C34	C35	V1	V2	V3	V4	V5	V6	V7	V8	V9
49	-.043844	.0095697	.0450167	.0615775	-.022491	0.164207	0.227471	0.117209	0.106899	.0362841	-.001562	.0974152	.0750025	-.072096
50	.0052757	.0022465	0.069344	.0038783	.0490203	.0148484	.0841658	0.122563	.0925905	.0542675	.0919646	0.09854	.0095925	0.102565
51	-.033629	-.001986	-.041215	.0468081	0.11503	0.107761	.0978444	.0345954	0.181666	.0845464	.0594074	0.154361	-.028094	6.4E-04
52	0.119025	.0824219	0.068593	.0398679	.0290202	0.113884	.0767991	0.109809	-0.00851	-.004664	.0854311	0.2042	-0.00572	.0804558
53	0.156408	.0494399	0.149433	0.13846	0.100354	.0892171	.0658487	0.128955	.0127625	-.006646	-0.05053	0.112214	-.107197	.0256402
54	-.050856	.0576715	-.037844	-.060065	.0165037	0.101931	0.112466	.0618674	.0579066	.0897087	.0493013	.0366838	-.018904	-0.0102
55	-.003014	0.108068	0.151872	.0477739	.0559533	.0595677	.0532445	.0826049	0.118047	0.176823	0.104338	.0337392	-.114426	0.128711
56	-.063089	.0752355	0.142626	.0940223	0.19098	-.003329	.0723412	0.134535	0.286002	0.226838	0.103581	-.078838	-.087624	.0718278

OBS	V10	V11	V12	V13	V14	V15	V16	V17	V18	V19	V20	V21	V22	V23
49	0.10303	0.087556	0.177434	0.179655	0.13967	0.184969	0.132391	.0654337	.0942639	0.234369	0.11263	.0264913	.0352748	-0.02859
50	.0158139	-.042589	.0650665	.0781221	.0303365	0.155175	0.148322	0.121087	0.120284	0.145475	.0517092	-.028745	.0215141	.0736911
51	0.028437	.0726943	.0440562	.0104226	-.016468	-.039518	.0122201	-.026022	.0303971	0.152108	.0606293	-.180394	-.018928	-.095549
52	-.054597	.0053695	.0748134	0.121459	.0447266	.0225193	0.115546	.0540677	0.176356	0.157826	0.101134	.0166087	.0621168	-.005554
53	.0527721	.0589227	.0151096	.0340568	-.034895	.0239785	-.023511	.0163536	0.122129	.0199256	-.004484	-.026855	-0.02455	.0318178
54	-.022859	-.043947	-.017134	.0384387	.0336646	.0959875	0.110421	.0899534	.0660028	.0644874	.0889438	-.038839	-.041522	.0542863
55	-.043613	-.027178	.0097478	0.132196	.0409053	0.188047	0.137734	0.129836	0.114613	0.111875	.0615595	0.101768	0.116514	.0607226
56	-.037675	.0127058	-.008439	.0725815	.0464441	.050094	0.118103	0.080363	.0711089	.0899772	.0655719	.0850722	-0.0144	2.6E-04

OBS	V24	V25	V26	V27	V28	V29	V30	V31	V32	V33	V34	V35	V36	V37
49	-.054718	-.055142	-.053968	0.112941	0.112488	0.162628	.0046745	0.11034	0.105103	0.079374	0.182563	.0792442	.0423838	-.013122
50	.0511465	.0357863	-0.00619	.0189395	0.022027	-.032807	-.070575	.0766683	.0377645	0.139443	.0347468	-.035552	.0214796	-.036682
51	.0122161	-.088272	-.149945	0.112797	0.139647	.0658841	-.016574	0.130083	0.111974	0.131041	.0504441	-.052679	.0970436	-.063201
52	-.066699	-.032071	.0452445	.0854867	0.106571	0.177606	-.029645	.0200386	0.152412	.0964689	0.175088	.0555336	-.004343	-0.0052
53	.0283604	-.015265	-.002834	-.004285	.0272322	0.163672	.0483039	.0644648	.0216789	-0.03501	.0072276	.0341168	.0655151	.0078952
54	0.065631	-.065034	-.029067	-.006266	.0146226	-.026195	-0.0358	.0244569	.0069393	.0127067	.0870975	.0465964	-.032371	-.024665
55	-.038943	.0453825	.0729759	0.084287	.0575204	.0061001	-.069864	0.072115	.0452702	.0675636	0.104511	.0349235	-.031285	.0420704
56	.0190873	0.108839	.0500002	0.13616	.0813031	.0745227	-.067424	0.084065	.0387559	0.100179	0.103805	.0757079	-.045186	.0609272

OBS	V38	V39	V40	V41	V42	V43	V44	V45	V46	V47	V48	V49	V50	V51
49	0.109236	.0849324	.0459773	4.5E-04	-.052378	0.125023	0.146912	0.120354	0.159888	0.128239	0.053028	.0706744	.0581691	.0858863
50	0.125453	.0129164	.0043955	-0.04428	-.070765	0.128673	0.140421	.0327448	0.195352	0.105849	0.120106	.0555417	.0927904	.0337557
51	0.123683	0.101956	0.072913	.0904332	-.048066	.0462713	.0738678	.0763685	0.187828	.0792255	0.131469	0.143118	0.160745	.0751666
52	0.014979	.0704495	.0321407	0.011432	-.001455	.0479052	.0042168	0.046321	0.131109	0.074104	0.111132	0.255517	.0717683	.0591173
53	0.102336	.0758209	.0445377	.0627947	.0816351	.0256295	0.076594	-.020113	0.124916	0.165503	0.152097	0.237639	0.272461	.0331902
54	.0536481	.0946016	.0977073	.0778531	0.038024	.0909246	.0822696	.0762039	0.147165	.0646691	0.107104	.0411155	.0092887	.0472188
55	.0259678	5.4E-04	-.029684	.0264979	-.002597	0.180898	.0865852	0.162401	0.10664	0.096429	.0150947	.0524704	.0636682	.0979969
56	0.092694	0.102613	.0900763	0.132543	.0142541	0.164665	0.105664	.0832833	.0310416	-.003516	-.018098	0.109039	0.051945	-.040377

OBS	V52	V53	V54	V55	V56	V57	V58
49	0.100279	0.164811	0.031518	0.191464	.0483982	.0448202	0.133314
50	.0572457	0.131487	0.052646	0.185299	0.141294	-.068892	.0822242
51	.0658950	.0403235	-.033302	-.018928	.0830592	-.006282	.0998524
52	0.119822	0.105513	-.017273	.0197623	0.113197	.0370403	-.045934
53	.0798302	-.020595	.0224069	.0645688	.0542332	.0758333	.0860848
54	.0663935	.0811532	.0365969	.0749505	.0299367	-0.10287	.0047363
55	0.118714	.0786364	.0242566	0.106238	.0267114	.0078427	-.001339
56	0.109536	.0826349	-0.00331	.0211988	.0113244	.0018575	.0698731

OBS	_TYPE_	_NAME_	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12
57	CORR	Q54	0.37312	0.297614	0.395451	0.254307	0.123999	0.217537	0.245773	0.374924	0.144627	0.287078	0.222247	0.307601
58	CORR	Q55	0.225722	0.303739	0.319504	0.231157	0.203123	0.286853	0.21052[illegible]	0.334922	0.154514	0.230569	0.32771	0.196464
59	CORR	Q56	0.233668	0.282993	0.212393	0.282633	0.115321	0.263549	0.263716	0.131127	0.273793	0.25121	0.145605	0.246407
60	CORR	Q57	0.388346	0.227337	0.280037	0.305288	.0019593	0.150127	0.227827	0.246898	0.111474	0.207953	0.17734	0.272278
61	CORR	Q58	0.254749	0.345138	0.201545	0.31044	0.184804	0.372782	0.286608	0.415874	0.230872	0.357334	0.52498	0.251719
62	CORR	B1	0.077973	0.15816	0.212658	.0969285	0.151414	0.139292	.0897855	0.101174	0.121895	.0405995	.0225931	-.0492478
63	CORR	B2	0.14396	-.012273	.0950983	0.122964	.0131165	.0548226	.0699543	.0334991	.0325963	-.002962	.0797506	.0548644
64	CORR	B3	-.131554	.0714175	-.172281	.0477655	0.230712	.0326826	.0763228	-.033612	-.024767	0.152511	.0431495	-.023433

OBS	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20	Q21	Q22	Q23	Q24	Q25	Q26
57	0.399607	0.384682	0.20114	0.223028	0.165234	.0994353	0.26735	0.132179	0.277906	0.225859	.0978672	-.138181	.0114524	.0521057
58	0.208186	0.264799	0.103081	0.292424	0.229945	0.231505	0.148743	0.26019	0.176741	0.119449	.0160694	-.050106	-.019027	0.129949
59	0.183548	0.233974	0.312616	0.412474	0.35416	0.35117	0.237359	0.234841	0.227966	0.186244	0.119729	-.005043	-.103558	.0021662
60	0.301813	0.275149	0.145049	0.284012	0.160543	0.148143	0.168854	0.156709	0.257529	0.292665	0.117119	.0192268	-.016353	.0248702
61	0.257457	0.336357	0.156244	0.363247	0.247399	0.274235	0.187944	0.222773	0.240485	0.229793	0.172377	0.112592	-.004001	.0721404
62	-.006329	.0965341	-.003416	-.017794	-.033483	-.001822	-.003289	.0692601	-.017525	.0729939	-.052943	0.164153	-.040948	.0784075
63	.0891092	.0740378	-.042752	-.020694	-.055754	0.081053	.0439142	.0305789	.0748578	-0.01629	0.104416	.0044794	.0149434	.0481745
64	-.143957	-.048022	-.046871	.0902867	-.079074	0.146953	-.013777	.0808639	-.009771	.0802832	.0136917	0.16766	-.050202	-.011937

OBS	Q27	Q28	Q29	Q30	Q31	Q32	Q33	Q34	Q35	Q36	Q37	Q38	Q39	Q40
57	0.308605	0.247944	0.165978	-.039795	0.112781	0.299464	0.419342	0.278369	0.169832	0.279901	0.263112	0.337313	0.289173	0.216495
58	0.239482	0.157743	.0688406	0.183379	.0980204	0.259002	0.304504	0.268657	.0711063	0.312377	0.229299	0.312865	0.113094	-.002054
59	0.214179	0.[illegible]84535	.0795077	.0381581	.0035805	0.251882	0.271995	0.141507	0.085037	0.210484	0.106071	0.278579	0.17994	0.19375
60	0.287407	0.108724	0.207155	.0028199	0.135058	0.425217	0.239632	0.172495	0.226254	0.158277	.0478591	0.280494	0.209076	0.197045
61	0.18554	0.239997	0.224486	0.152569	0.100407	0.251226	0.227946	0.1086	.0997346	0.318107	0.239449	0.377643	0.10859	.0071674
62	.0714752	.0546187	-.011635	-.056159	.0071221	.0617828	0.159998	.0765101	0.011534	.0012443	0.050719	.0881094	-0.14429	-.077871
63	-0.08818	.0108564	0.17856	.0483132	.0736858	.0870949	0.108597	-.020179	.0275366	.0661401	7.8E-04	.0535391	-.004277	-.015079
64	.0103043	.0291784	-.052249	-.094615	-.078161	.0455666	-.125751	-.124323	-.056198	-.073207	-.107422	.0863154	-.008334	-.005427

OBS	Q41	Q42	Q43	Q44	Q45	Q46	Q47	Q48	Q49	Q50	Q51	Q52	Q53	Q54
57	0.213835	0.19617	.0396311	0.022939	.0078256	0.205113	0.246766	0.206109	0.105135	0.104307	0.205003	0.189605	0.127998	1
58	.0077042	0.175407	0.403228	0.256404	.0900708	0.273386	0.220898	0.178475	0.2224	0.148862	0.137689	0.367894	0.238821	0.263985
59	0.141774	0.12257	0.347423	0.185979	0.100411	0.176351	0.226565	0.208237	0.166331	0.242098	0.207163	0.441623	0.322834	0.299668
60	.0934312	0.32329	.0533034	.0621497	0.105503	0.232455	0.147545	.0687498	.0797443	0.22573	.0752857	0.2251	0.179311	0.34649
61	.0176997	0.134339	0.177678	0.105095	.0753804	0.255936	0.175695	0.22234	.0983705	.0997821	0.148965	0.182836	0.210601	0.234666
62	-.034683	.0309192	0.113643	0.120877	.0548801	.0751374	.0492046	0.123474	.0947903	.0503559	.0549029	.0939941	-.044635	.0509287
63	-.158777	.0691873	-.089608	0.125122	.0470527	0.07611	-.009871	-.041117	0.150732	0.129668	.0199714	.0121205	-.005405	.0964016
64	.0978541	-.025994	0.112362	.0360902	-.001404	-.103608	-.059373	.0451137	-.055698	.0257747	.0717483	-.035163	0.1112	-.101055

OBS	Q55	Q56	Q57	Q58	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10
57	0.263985	0.299668	0.34649	0.234666	.0509287	.0964016	-.101055	-.041533	-.080131	.0791552	.0091787	-0.06533	.0585423	-.015967
58	1	0.27563	0.132971	0.390918	0.115777	-.045656	-0.06308	-.055513	-.034582	.0460232	.0551129	-.099896	-.065942	0.08558
59	0.27563	1	0.201923	0.156043	.0832074	-.044789	.0937743	-.092593	.0076213	-.024443	.0379511	-.116276	.0250452	0.011191
60	0.132971	0.201923	1	0.246687	.0088576	.0926946	-.006895	-.006724	-.011501	.0272501	-.015288	.0218386	0.102789	-.031916
61	0.390918	0.156043	0.246687	1	.0429047	0.141746	0.102114	-.094389	-0.0533	.0317266	.0540106	.0345873	-.020291	-.080629
62	0.115777	.0832074	.0088576	.0429047	1	.0049955	0.114123	-.063816	.0618352	.0447291	0.112913	.0121364	.0697537	.0641386
63	-.045656	-.044789	.0926946	0.141746	.0049955	1	-.203784	.0489977	-.035911	.0973333	0.102271	0.576003	.0228555	.0910306
64	-0.06308	.0937743	-.006895	0.102114	0.114123	-.203784	1	-.057956	0.073606	-4.5E-04	-.036079	-.114566	-.136001	-.064188

OBS	B11	B12	B13	B14	B15	B16	B17	B18	B19	B20	B21	B22	C1	C2
57	0.108178	.0698706	.0019902	.0501886	.0608321	.0874065	0.229202	.0776988	0.134837	0.128212	.0413761	.0315882	0.140388	.0336202
58	0.174604	-.029362	-.034812	0.074424	.0167879	.0992134	0.126725	0.19592	0.154521	.0498401	.0151005	.0025132	.0443547	.0489578
59	0.123879	-.076318	-.063529	.0016812	.0748134	.0773526	.0533525	0.163913	0.099313	0.051342	.0728215	.0068048	0.148003	.0267367
60	.0963899	-.081186	-.014761	-.068156	-.003456	.0316914	0.160174	.0234921	-.003072	.0616425	-0.02926	.0294128	-.057439	-.014591
61	0.102938	-.080937	-.051123	.0025436	-.022739	.0102137	.0222741	4.1E-04	.0080004	0.113088	-.088345	-.047881	-.012408	.0626958
62	.0867687	.0656452	.0372612	-.009512	.0354705	.0686833	0.152155	0.15707	0.13069	0.162968	0.146951	0.049899	0.330397	0.138324
63	.0289151	.0028319	-9.4E-04	.0504436	0.195394	0.166485	0.165549	-.040633	.0261853	0.106239	0.110487	.0029723	.0159229	.0985553
64	.0795214	-.049159	-.037399	.0229925	-.136548	.0116327	-.115994	0.122404	.0849699	0.133246	.0122489	.0175791	0.128531	0.072759

OBS	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
57	0.116632	.0396141	.0239869	.0156571	.0575802	.0826236	0.246604	0.161899	-.015926	.0257128	-.123767	0.150035	.0181615	-.027005
58	0.155287	0.241262	-.009048	-6.04252	.0552832	.0826094	0.149763	0.038878	.0077553	0.141622	-.060003	-.024221	.0355753	-.070807
59	.0422011	0.141171	.0925232	.0952049	0.100768	0.10301	0.158858	0.169334	0.147829	.0635427	.0509325	.0255341	-.050192	-.021555
60	-0.00573	.0600614	-0.06931	-.003236	-.002873	-.005734	0.152784	.0178434	-.064908	.0559042	-0.02813	0.14393	-0.01153	-.077172
61	.0313154	.0683329	-.075308	-.054292	.0164136	.0488665	0.187943	-.022076	.0792956	.0392043	.0338358	0.198083	0.112254	.0325215
62	0.183249	0.110375	0.266931	0.140423	0.165026	0.280801	0.051498	.0449305	0.1022	0.179256	.0241363	-.003136	0.168435	.0356522
63	-.041544	0.046943	-.052861	-.035517	.0216651	.0564838	0.115545	0.001019	-.049321	.0264985	-.105667	0.465916	0.13466	0.052935
64	.0736389	0.127823	0.152648	0.206829	.0527717	0.11491	.0423352	0.115194	0.177414	0.113123	0.404871	-.075502	-.002772	.0242279

OBS	C17	C18	C19	C20	C21	C22	C23	C24	C25	C26	C27	C28	C29	C30
57	-.034492	0.157372	0.090478	.0760453	0.102629	0.115104	0.112906	0.161926	.0901534	0.148534	0.136388	.0185297	0.109295	0.136885
58	-.012079	0.12979	0.144277	0.202256	0.16836	0.161643	0.105224	0.178669	0.147914	.0775279	.0824483	.0140798	.0692439	0.119857
59	-.074955	0.156838	.0997501	0.251978	0.143169	0.185688	0.117611	0.207266	0.103086	.0308601	.0513664	0.031993	.0813822	0.105071
60	-.118057	.0474712	-.013203	.0371119	.0145411	.0796893	.0078735	.0503296	.0937104	.0022988	.0208363	.0041179	.0724698	0.028659
61	.0552971	.0916653	.0802564	0.132049	0.127314	0.107566	0.118671	.0890711	0.050276	.0499511	.0042185	-.009123	-0.08921	0.106496
62	0.202236	0.174728	0.274867	0.27416	0.282616	0.22389	0.246702	0.264105	0.172942	.0273176	0.094263	.0987232	0.259452	0.124567
63	0.168551	.0530935	.0634641	0.124038	0.061807	0.154895	.0978452	.0355889	0.149735	.0706736	.0107043	-0.04207	.0037168	.0643365
64	.0159302	.0553939	-.013694	-0.0113	0.029384	0.102753	0.164676	0.152551	0.041817	-.122851	-.051533	.0454635	-.065274	-.017843

OBS	C31	C32	C33	C34	C35	V1	V2	V3	V4	V5	V6	V7	V8	V9
57	-.035049	.0358833	.0442705	.0617459	.0174255	.0209377	.0373833	.0745951	.0094422	-.075617	.0902644	0.127989	.0738832	0.122279
58	-.062637	-.000298	.0927755	.0665609	0.094474	.0985022	0.131032	0.215203	0.106066	0.123054	0.123805	.0439566	.0944808	.0721073
59	-.065112	-0.01953	0.125783	0.117023	.0892493	.0267789	.0379667	.0602492	0.116968	.0885108	.0898439	.0078178	-.088589	0.149832
60	-.008564	-.031391	0.026316	.0110065	-.054379	.0354851	.0461447	.0541315	-.008635	-.006488	-.013327	.0853588	.0882162	.0030382
61	-.221187	-.017073	-.036017	-.010576	.0368174	.9146226	.0729624	.0222326	.0334468	0.118117	-.010245	-.036515	0.074292	-.047688
62	.0610363	.0895149	.0952829	0.156075	0.147987	0.193547	0.240447	.0812817	0.094799	0.203404	0.176719	.0695666	0.187572	0.316499
63	0.176155	.0366974	-.059228	-0.07122	-.107315	-.032793	.0041463	.0812347	-.063163	.0060944	-.011178	0.158023	.0447287	-.018662
64	-.094046	0.104646	.0111244	-.065695	0.157655	.0475575	.0291639	-0.16374	0.139404	0.141854	-.128786	-.121992	-.134897	0.109275

OBS	V10	V11	V12	V13	V14	V15	V16	V17	V18	V19	V20	V21	V22	V23
57	.0584188	.0722255	0.169665	0.138536	0.215034	.0752723	.0232337	-.052301	-.068176	.0668699	.0535516	.0567045	0.130449	.0902847
58	0.150676	0.179697	0.151951	0.210457	.0835199	0.169336	0.179414	0.129123	0.142636	0.195841	0.227378	.0565312	.0980602	-.043374
59	.0087213	.0499644	6.2E-04	.0291521	-.003569	0.139862	0.115051	0.128416	0.184787	0.080068	0.108989	.0116038	0.103345	.0724637
60	-0.00285	.0251596	.0605991	0.078184	.0821937	.0399834	0.061133	-.035212	-.051393	.0377354	.0373352	.0253872	.0231508	.0276318
61	.0746321	0.139739	0.116865	0.151117	.0634287	0.137097	0.225782	.0870459	.0372902	0.23457	.0862403	-.019806	.0291564	9.7E-04
62	0.159559	0.273427	0.165895	.0606436	.0572906	0.150319	0.219828	0.129117	0.158076	.0888632	0.295132	0.177033	0.110059	0.115499
63	.0507708	0.104813	0.105831	0.114162	0.113902	.0361505	.0124882	-.017141	0.105012	0.155083	.0678095	-.020675	0.107785	0.15213
64	-.031624	.0143883	.0407288	-0.07108	-.086509	-.024236	0.10501	0.092107	.0802876	.0116479	.0848558	.0802356	.0023879	.0786233

OBS	V24	V25	V26	V27	V28	V29	V30	V31	V32	V33	V34	V35	V36	V37
57	-.084819	-.046548	-.016768	.0099389	.0121588	.0332969	-.010525	.0704227	0.152225	0.103597	0.127122	0.157982	.0660848	0.135401
58	-.037158	-.012565	-.013459	.0511947	.0118768	-.100621	-0.04748	0.045168	0.15996	0.175528	0.129565	.0551219	0.084903	.0429614
59	.0565592	.0522349	-.016936	.0317128	-.029672	-.092441	-.072936	-.033524	.0800603	0.042962	0.103718	.0654249	-.117321	.0124941
60	0.008845	.0520785	.0160419	-.016988	-.024428	.0986136	-0.04445	-.066909	.0754903	0.02025	0.14597	0.136318	-0.10088	.0259832
61	.0945105	-.006751	0.047503	.0225148	-.033167	.0844079	0.13233	.0024084	.0758886	0.188298	.0614894	.0291667	.0488371	.0449506
62	0.109542	-0.03474	-.016335	0.113903	0.135029	-.008167	-.073205	.0853472	0.159467	0.27758	0.194864	0.212746	0.131193	0.189789
63	-.018883	-0.0172	.0745101	.0047559	.0486363	0.525744	0.173586	-.007342	.0947922	0.065245	0.101868	.0285602	.0240506	0.096799
64	0.46042	0.136238	.0537729	-.101604	-.125573	-.152699	-.130447	-0.15445	-.135495	0.007424	-0.12166	-.002367	-0.08547	-.067867

OBS	V38	V39	V40	V41	V42	V43	V44	V45	V46	V47	V48	V49	V50	V51
57	.0789827	0.177783	0.144072	0.161009	0.073188	.0148673	-0.02218	-.035557	.0462585	.0434275	.0047668	.0044804	.0747522	.0468436
58	-.054232	.0178616	-.006383	-.015425	-.042423	0.157711	0.111344	0.139794	.0574121	0.190932	.0054316	0.155021	0.17575	0.130768
59	0.054122	.0095397	-.060909	-.025825	-.003256	0.172299	.0458518	.0787799	.0045352	.0899989	.0718191	.0892769	.0873697	0.101737
60	-.035418	.0510081	.0273804	.0901506	.0240827	-.011112	-.007184	-.053497	-.049152	.0102641	-4.9E-04	-.031237	-.032898	-.056955
61	.0565987	.0546144	.0177735	-.004961	-.105693	0.254747	0.162983	0.174199	.0425064	0.127099	.0360861	.0609425	.0421774	.0195129
62	0.220354	-.039496	0.025273	0.051066	0.145261	0.243376	0.164705	0.112085	0.163579	0.255094	0.246174	.0591672	0.163403	0.223926
63	-.062458	0.164981	0.161404	0.144151	0.181411	.0442106	0.121473	.0492361	.0564269	0.13132	.0759172	.0767585	-0.00902	0.121585
64	-.077735	-.101019	-.097458	-.006001	-.016595	.0676871	-.013242	.0460819	-.020532	.0174512	0.116997	.0069498	.0321551	-.094178

OBS	V52	V53	V54	V55	V56	V57	V58
57	0.04871	1.3E-04	0.10802	0.131831	0.156193	.0720182	0.180772
58	0.18419	0.157298	.0969371	0.138868	0.119025	.0321251	0.111992
59	.0345608	.0264741	-.092174	0.039577	0.102198	-.037556	.0656102
60	-.024947	-.053448	.0539052	.0489567	0.111572	.0866087	0.117657
61	0.186468	0.103554	.0652239	0.16935	0.118295	0.106921	0.219319
62	0.19037	0.142619	.0500522	0.207619	0.178757	.0836659	0.152402
63	0.109742	.0697502	0.12351	0.104666	0.135279	0.211081	0.170041
64	0.145496	.0287453	-.061779	-.076492	.0267348	-.042986	-0.00332

OBS	_TYPE_	_NAME_	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12
65	CORR	B4	.0316032	-.079666	-0.14462	-.076542	-.015477	0.014876	-.161226	-.021405	.0101792	-.091171	-.134452	0.051394
66	CORR	B5	-.085886	.0340581	-0.08505	-.025065	.0071052	.0737784	.0107249	.0153083	.0130322	-.079079	-.063422	-.066532
67	CORR	B6	.0154741	.0627492	-.002728	-.002848	.0119355	.0480213	0.043506	.0950566	.0963281	-0.00603	0.00609	0.130064
68	CORR	B7	0.14544	.0200488	.0799965	.0832537	0.209491	.0664485	0.1303	0.143984	0.159621	.0325626	0.11619	-0.12724
69	CORR	B8	.0356056	-.062067	.0225469	-.026444	.0103547	-.029929	.0460933	-.063187	.0364091	-.080306	-.024108	-.031916
70	CORR	B9	0.144304	.0822185	0.11746	-.017071	-.146351	-.048629	.0826217	.0222782	.0623991	.0736754	-.019553	-.084815
71	CORR	B10	.0810947	0.138918	0.231877	-.022928	-.072694	.0288333	.0032685	.0196793	-.016476	-.013219	-.041003	-.062085
72	CORR	B11	.0824332	0.103744	0.124603	.0670919	0.146751	0.129648	.0086757	.0789977	0.101983	0.110296	0.193773	.0344263

OBS	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20	Q21	Q22	Q23	Q24	Q25	Q26
65	.0586968	-.059526	-.094623	-6.3E-04	-.066433	-.095338	-.011719	-.044351	-.154483	.0765808	.0457038	-.056579	0.122965	0.153113
66	.0495082	-.019409	-.111372	0.132612	-.040286	-.078021	-.013328	-.014841	-.121568	-.002447	-.074982	.0273365	.0730959	0.103907
67	0.12508	0.095705	-.004698	.0842204	-.007233	-.037372	.0601124	.0582332	.0134261	.0760554	-.021471	-.023365	.0640448	0.365496
68	0.139921	.0241682	-.101298	-.071246	-.081758	-.048205	-.006687	-.038956	-.012714	-.003113	.0665619	0.179902	-.026778	.0312153
69	.0369962	-0.01527	-.119809	-.058309	-.136361	6.2E-04	.0027924	-.071723	-.032669	-.113535	.0220181	0.103128	.0270953	0.031441
70	0.118496	-.026591	.0280026	-0.01263	-.073252	-.061003	-.075107	-0.09023	0.038103	.0385374	-.063753	-.067383	-.037694	-.043797
71	0.038539	.0227838	-0.06945	.0127282	-.091432	-.066865	-.093485	.0183508	-.001483	-.196138	-.092955	-0.0195	-.074144	.0069487
72	0.123495	0.143235	-.050011	.0706161	.0280444	.0238406	-.001203	.076903	-.086283	-.035971	.0283768	0.118551	8.9E-04	-0.01665

OBS	Q27	Q28	Q29	Q30	Q31	Q32	Q33	Q34	Q35	Q36	Q37	Q38	Q39	Q40
65	.0303708	.0419557	.0328493	-.078858	0.120129	.0291725	-.055878	.0431483	.0125376	-.112946	-.036222	-.052668	.0839516	0.178326
66	.0574341	.0690696	-.098968	-.045972	0.12982	-.007908	-.054034	.0836094	-0.0144	-.132875	-0.14024	.0485952	.0640761	0.152114
67	.0774395	.0961298	.0552456	-.110937	.0381572	.0470574	0.100777	.0636619	-.014097	-.035868	-.004991	.0337643	0.036919	.0082389
68	.0028822	-.102582	.0159339	0.167125	.0259784	.0042089	-.0475189	.0849274	-.043137	0.162455	.0210921	0.120242	-.039502	-.005707
69	-.130585	-.059311	.0430601	.0640117	.0133978	-0.02189	-.053519	-.113292	.0546182	-.066729	-.069491	-.020668	-.120457	-.073351
70	-.044771	-.084164	.0380436	-0.0551	.0161287	.0975163	.0992014	0.136258	.0361512	0.130424	.0310384	-.006917	.0021921	.0396569
71	.0525616	-.009037	0.065699	-.037343	-.015958	.0174912	.0581533	0.187943	.0533923	-.019946	-.064156	.0261911	-.009677	-.088234
72	.0693858	-.010053	0.13478	0.110931	.0481598	.0696362	.0170529	.0790329	0.154551	.0238636	.0215161	.0142017	-.014751	-.102118

OBS	Q41	Q42	Q43	Q44	Q45	Q46	Q47	Q48	Q49	Q50	Q51	Q52	Q53	Q54
65	.0441467	.0367042	-0.0327	.0802715	.0787277	-.034325	-.015946	-.061687	-.014889	-.159861	-.049131	-0.04778	.0277147	-.041533
66	.0947807	-.020316	.0567123	.0633848	.0598272	.0378459	-.115375	-.081683	-.060859	-.148607	0.108159	.0244586	-.001957	-.080131
67	-.032164	.0148741	.0053829	.0701506	.0783793	-.045786	.0187323	-.089186	.0858143	-.059127	.0275283	.0249519	.0610177	.0791552
68	-.130567	-.013337	-.033656	.0728508	-.011465	-.011325	-.128856	-.001039	-.020588	.0488847	-.063967	.0238014	-.026031	.0091787
69	-.109303	.0036218	-.074215	0.038019	.0799587	.0197221	-.050392	-.042523	.0784391	.0802981	-.022207	-2.4E-04	-.012762	-0.06533
70	-.014156	.0453245	0.069462	.0392841	.0294857	0.130911	.0398063	.0177649	.0542995	-.017452	-.055532	.0797368	-.019331	.0585423
71	-.055185	.0045624	0.158786	0.158086	0.10567	0.119501	-.016248	.0467153	.0993649	0.136298	-0.08105	.0737234	.0507224	-.015967
72	.0173202	.0356073	0.114496	0.072926	.0197849	.0784866	.0463197	.0954744	.0859762	0.245152	.0234215	.0837829	0.19999	0.108178

OBS	Q55	Q56	Q57	Q58	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10
65	-.055513	-.092593	-.006724	-.094389	-.063816	.0489977	-.057956	1	0.427358	0.483532	-.081596	0.074837	0.005634	-.057652
66	-.034582	.0076213	-.011581	-0.0533	.0618352	-.035911	0.073606	0.427358	1	0.280887	.0125447	.0630987	.0318658	-.032148
67	.0460232	-.024443	.0272581	.0317266	.0447291	.0973333	-4.5E-04	0.483532	0.280887	1	-.037719	0.119886	.0173558	0.126296
68	.0551129	.0379511	-.015288	.0540106	0.112913	0.102271	-.036079	-.081596	.0125447	-.037719	1	0.25653	0.130245	.0316457
69	-.099896	-.116276	.0218386	.0345873	.0121364	0.576803	-.114566	0.074837	.0630987	0.119886	0.25653	1	-0.02745	0.145059
70	-.065942	.0250452	0.102789	-.020291	.0697537	.0228555	-.136001	0.005634	.0318658	.0173558	0.130245	-0.02745	1	0.222662
71	0.08558	0.011191	.0371916	-.080629	.0641386	.0910306	-.064188	-.057652	-.032148	0.126296	.0316457	0.145059	0.222662	1
72	0.174604	0.123679	.0963899	0.102938	.0867687	.0289151	.0795214	-.122432	-.051675	-.008736	0.105014	.0948505	.0535112	0.392873

OBS	B11	B12	B13	B14	B15	B16	B17	B18	B19	B20	B21	B22	C1	C2
65	-.122432	0.107205	0.218117	.0955632	.0479414	.0417951	-.085356	.0053903	-.012436	-.103144	-.108951	-.053967	-.082442	.0662849
66	-.051675	0.155817	0.140756	.0335125	0.161958	-.006704	.0205614	.0064207	.0232139	-0.07288	-.059501	.0406537	.0385354	0.01655
67	-.008736	0.157691	0.121592	0.27478	0.163707	.0770699	-.010614	.0563262	-.006974	.0193977	.0321426	.0195329	.0767654	.0345042
68	0.105014	.0421808	-.043256	0.113664	0.249164	0.142514	0.116846	.0976687	0.128725	0.113856	0.161373	0.131713	0.062798	.0911256
69	.0940505	.0487093	.0708962	.0766403	0.186886	0.152254	0.124285	.0705502	0.166627	0.208151	0.179916	.0964293	.0073424	.0952841
70	.0535112	.0447018	-.019524	0.206714	.0082588	.0729428	0.182569	.0891932	.0754269	-.092599	.0017848	.0218065	.0960496	.0480994
71	0.392873	0.102581	0.025027	0.244748	0.100759	0.198069	0.136845	0.111123	.0917336	.0154796	0.196842	5.1E-04	.0434309	.0509703
72	1	.0530697	.0820066	0.187041	0.181732	0.241852	0.232099	0.150235	0.166972	0.129422	0.138978	0.154	.0807095	0.153274

OBS	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
65	-.022843	.0322772	-.072804	.0226595	-.062801	-.078184	0.002832	-.151183	-.069848	-0.05264	.0337495	-.041321	-0.12331	-.054397
66	-.044234	.0218933	.0393066	-.024354	-.020387	0.062353	-.043719	.0319017	.0605389	.0388456	0.017701	.0593725	-.002805	.0060294
67	0.064113	.0473851	.0215746	0.116357	.0559695	-.058271	.0664706	.0346665	.0077683	-.066454	.0448352	0.037479	-.089183	-.012515
68	0.172497	0.143104	.0688562	-.059526	0.283667	0.122912	0.043451	0.129638	0.116823	0.140476	-.044116	.0678169	0.210206	.0355795
69	.0900927	.0890867	.0191419	.0186767	0.10191	0.083117	.0815556	.0375617	0.037564	0.166145	-.008234	0.364781	0.194518	0.144549
70	0.078374	.0309505	-.065285	-.125069	-.022909	.0719419	-.015698	.0158774	.0437961	-.055168	-.042042	-.055013	.0011716	-0.09786
71	.0293002	.0511683	-.028116	.0688551	-.055226	.0770995	-.025599	.0658602	-.052203	.0931476	-.104411	0.114301	-.003329	-.021038
72	0.13979	0.176027	.0150523	.0956346	.0897423	0.148806	0.113908	0.189159	.0140971	0.147445	-0.0222	0.145568	0.109499	.0530277

OBS	C17	C18	C19	C20	C21	C22	C23	C24	C25	C26	C27	C28	C29	C30
65	-.071736	-.089044	-.059121	-.123437	-.089393	-.052023	-.096606	-.127546	-.060733	0.129206	0.11874	0.130819	0.101854	0.144549
66	0.026722	-.090976	.0769643	-.003024	.0960246	.0169556	0.036299	.0026586	.0891675	0.131313	0.110871	.0725672	.0712839	.0960271
67	.0328499	.0014919	0.120785	-.055946	-.006535	.0625663	-.090304	-.038029	.0646351	0.156676	0.157278	0.104507	0.093846	0.112411
68	0.124776	0.230693	0.161838	0.178466	0.107749	.0408292	0.056228	.0168631	-.074199	.0844092	0.136843	.0586025	0.136035	0.084361
69	0.132587	.0234147	.0220606	0.124314	.0716311	.0615517	.0676732	-.015536	0.10099	0.122627	0.105967	.0845338	.0133318	0.067754
70	-.001539	0.14211	0.169173	0.141277	0.076646	0.12799	.0903464	.0692463	0.128902	.0793047	.0111892	.0427204	0.202006	0.107858
71	.0043296	.0785817	.0396171	0.080526	.0310218	0.104621	0.11408	0.07738	0.157345	0.146017	0.119229	.0730742	0.215946	0.126929
72	.0429731	0.170785	.0825072	0.15034	.0433009	0.153185	0.151167	0.162637	0.188018	0.136057	0.13065	0.132154	0.133654	0.188788

OBS	C31	C32	C33	C34	C35	V1	V2	V3	V4	V5	V6	V7	V8	V9
65	.0799203	-.036037	-.067966	-.105619	.0109319	-.017942	-.029652	-.050728	-.035181	-.009672	.0095765	5.6E-04	.0366945	0.11053
66	.0770376	.0034762	0.05412	-.005628	.0194166	0.132193	.0771639	-.068744	8.0E-04	.0425851	-.050857	.0073819	0.127432	1.3E-04
67	.0094977	.0459443	-.066042	-.204224	-.015185	-.044063	-0.0284	.0112213	-.031685	.0567285	.0766735	-.031616	.0595398	0.174059
68	.0328119	.0668414	.0627439	.0907137	0.17185	.0368892	.0797877	.0800413	.0124581	0.11866	0.12521	-0.02302	0.182502	-.020749
69	0.144478	.0826827	-.021042	.0677399	-.051083	.0266186	0.087763	0.126894	.0904013	.0835139	.0301207	-.022321	0.107662	0.016033
70	.0969425	0.104476	.0723451	.0313302	.0144693	0.100425	0.137813	0.109822	-.074349	-.033798	.0568903	.0671938	0.155202	0.130191
71	0.12697	-.020803	0.00287	.0987391	0.100403	0.094891	0.035727	.0395721	.0677553	-.041346	.0109222	-.008355	.0734987	.0504623
72	0.008898	.0811336	0.164314	0.210691	0.354461	0.179599	.0946625	.0628231	0.104642	0.016494	0.106589	-.072373	.0661785	.0875744

OBS	V10	V11	V12	V13	V14	V15	V16	V17	V18	V19	V20	V21	V22	V23
65	.0136593	-.062876	-.031508	.0710821	-.005743	-.063543	-.117919	-0.08487	-.186467	.0085459	-0.08896	.0659818	-.038706	.0836487
66	-.048076	-.014687	-.063671	.0661495	.0306516	0.10404	.0453333	.0181777	-.069425	0.004708	.0564494	-.018251	.0809872	.0372384
67	-.036869	-.038601	-.031926	0.025093	-.018776	0.127366	-0.00854	-.023738	-.058279	-.063463	-.030151	.0319222	.0627446	.0983957
68	0.159583	0.210621	.0455185	0.108253	.0619807	.0354367	.0031265	-.015377	-.057782	.0103103	.0021769	.0915054	.0711847	.0551829
69	.0713201	0.127982	0.124288	0.114641	.0787999	.0558848	0.038947	-.016147	.0544015	.0598018	-.009281	0.089143	-.015607	0.144767
70	.0061719	.0147803	.0450188	.0649855	.0131664	0.110063	0.103725	.0235788	.0278425	0.149352	0.089865	0.154142	0.18905	.0616199
71	.0852652	0.155852	.0104805	0.114359	.0877558	-.010346	.0384111	.0178076	.0226946	.0344839	.0662052	0.106146	0.123952	.0247869
72	0.236102	0.25619	0.13695	0.118519	0.106458	.0313683	0.122201	.0386504	.0679224	.0864688	0.13291	0.127529	0.131376	-.041961

OBS	V24	V25	V26	V27	V28	V29	V30	V31	V32	V33	V34	V35	V36	V37
65	-.061166	0.316039	0.33138	.0847626	.0780122	.0101047	-.182724	-.037747	.0305682	-.152624	.0253276	.0401668	-.045161	-.088714
66	.0409761	0.275958	0.209911	0.105509	0.122117	.0654537	-.037009	.0346099	-3.8E-04	-.038017	.0548774	.0356342	-.034631	-.037954
67	-.043181	0.327836	0.592334	.0546689	.0674582	-.036525	-.133751	-.049858	0.123814	-.006919	.0212477	0.126155	.0079184	.0388345
68	-.051171	-.009305	-.047193	.0343465	.0641252	0.129849	0.407388	0.224998	0.10412	.0366165	0.147162	.0672915	0.144952	0.18102
69	.0212773	0.144087	0.144168	.0252241	0.106323	0.479515	0.215447	.0048101	.0629702	.0860565	.0701361	.0216689	-.026707	0.112464
70	-.084395	.0513608	-.0105973	0.113343	.0661853	0.12714	0.127651	.0447348	0.055553	.0076552	0.060086	.0828893	.0013893	.0866846
71	-.084996	.0750178	0.121484	0.199455	0.190954	0.143562	0.100516	.0985207	0.153083	0.139184	.0296107	0.125478	-.016495	-.083956
72	0.054984	0.109203	.0708054	0.170102	0.123108	0.207013	0.211157	0.153677	.0894366	0.218597	.0959103	.0765166	0.140533	.0873629

OBS	V38	V39	V40	V41	V42	V43	V44	V45	V46	V47	V48	V49	V50	V51
65	-.095979	0.139567	0.101091	.0562572	0.142858	-.001048	-8.1E-04	-.012067	-.121179	-.193741	-.146034	-.181984	-.220948	-0.03254
66	-.015176	.0619875	.0983146	.0903943	0.143987	0.135499	0.08665	0.100755	.0179745	.0160763	-.014803	-.013784	-.007574	0.118032
67	-.099628	.0191169	0.028512	-.007054	0.070304	0.131046	.0857257	-8.6E-04	-.002237	-.006574	-.059972	-.075865	-.129189	.0811976
68	0.160617	.0675577	.0611717	0.109224	0.106112	-.052638	.0814194	-.035336	.0347996	0.121672	.0143605	0.160178	.0454002	0.095697
69	-.019536	0.120891	0.11676	.0252563	0.160195	-.045833	.0214875	.0614832	-0.01787	.0688708	.0306968	.0527842	-0.10091	.0021082
70	0.111525	0.077121	0.101895	.0954111	-.080861	0.166457	0.225743	0.145605	.0617474	0.040159	.0215221	-.002595	-.108869	.0524989
71	-.055586	.0322275	.0355155	-.002579	-.039967	.0458064	.0873418	.0987405	.0552239	0.140146	.0837067	0.172926	0.160195	0.112429
72	.0663577	0.13872	0.154205	0.13776	.0391418	0.144076	0.186047	0.061983	.0897285	0.178954	0.211263	0.28331	0.309751	0.145461

OBS	V52	V53	V54	V55	V56	V57	V58
65	-.031534	-.010368	0.195143	.0127062	.0177114	.0988738	-.167475
66	.0870353	0.00136	0.155477	.0499069	.0434142	0.161199	-.060081
67	.0790125	.0626128	0.222563	0.125588	.0490006	.0294763	.0660963
68	.0569676	.0221749	0.100823	-.012933	-.011964	0.140124	.0798513
69	.0712643	.0814897	.0799557	.0390863	-.017697	0.143321	0.104171
70	0.136761	0.212142	0.212967	0.290267	0.223596	0.109711	0.149006
71	0.219632	0.18939	.0812968	0.110832	0.180032	-0.0442	.0419997
72	0.300485	0.207494	0.102899	0.12308	0.198054	0.151609	0.149023

OBS	_TYPE_	_NAME_	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12
73	CORR	B12	-.032457	-.013191	-.011183	-.043865	-.076209	.0070822	-.031599	.0150598	-.101879	-.022577	-.001846	.0464037
74	CORR	B13	-.022565	-.094561	-.147779	-0.15021	-.006902	.0052347	-.181111	-.070436	-.056027	-.011777	-.013192	-.029282
75	CORR	B14	.0627367	.0531525	0.135551	-.104866	.0556067	-.017247	.0999519	0.090385	.0348983	-.001487	-.076104	-0.02716
76	CORR	B15	0.113344	.0577559	0.11855	0.209449	.0590619	0.134408	0.203478	.0467309	-.001311	-.100619	0.19535	.0279775
77	CORR	B16	.0708258	0.087545	0.164972	.0313576	0.124191	.0403527	0.148773	.0935583	.0567349	0.105289	0.152506	-.101788
78	CORR	B17	0.17587	0.196441	0.278202	0.119095	0.104353	.0988222	0.18491	0.102305	.0970522	.0204089	0.103264	0.103898
79	CORR	B18	0.015161	.0247448	0.179716	-.026685	.0452394	0.133451	0.163171	.0559072	.0665813	.0608835	0.105402	.0272326
80	CORR	B19	0.102792	.0511535	0.103743	-.009553	.0559976	.0641234	.0871464	.0554533	.0534292	-0.03273	0.108359	.0064996

OBS	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20	Q21	Q22	Q23	Q24	Q25	Q26
73	5.9E-04	-6.0E-04	-.005707	0.096038	.0289377	-.073583	.0285808	.0229206	-.046441	-.055396	-.202454	-.104153	.0443598	-.135002
74	-.047321	-.052744	.0057008	.0658725	.0017344	-.068256	.0059572	.0177329	-.111262	-.019864	-.095127	-.050751	.0684011	-.152781
75	.0313643	.0731874	-0.04058	.0105203	.0113116	-.033308	-.037154	.0359579	.0526608	-.060315	-.059099	-.055845	-.016786	0.163709
76	0.156582	.0804597	-.062634	.0414616	.0043594	-.019013	-.018278	.0904764	-.070859	.0313997	.0110883	0.167378	-.061671	-.021526
77	.0247503	.0702681	-0.10061	.0366287	.0523149	.0687333	.0581716	0.117187	-.059303	-5.2E-04	.0048531	0.209909	-.015384	-0.01513
78	0.227545	0.191569	.0058323	.0488235	.0547383	.0744637	.0697795	0.153999	-.002135	.0905003	-.027004	-.051483	0.110981	-.046717
79	.0859861	0.129004	.0210321	.0727664	.0425146	0.149945	-.043743	-.029788	-.012499	.0163529	.0548529	.0664384	0.160502	.0592007
80	0.177586	0.118329	.0202012	.0419482	.0497422	0.120143	-.039744	.0386216	-.066869	.0320782	-.038451	0.105593	0.102627	.0144165

OBS	Q27	Q28	Q29	Q30	Q31	Q32	Q33	Q34	Q35	Q36	Q37	Q38	Q39	Q40
73	0.142783	0.213527	-.103108	-.169679	.0421912	-.119474	-.033678	.0285588	-.038238	-0.04428	-0.08247	-.024069	.0655423	-.058806
74	.0795318	0.146918	-0.12568	-.147167	0.109753	-.115366	-.159713	-8.0E-04	.0699661	-.122948	-.036824	-.067149	.0755434	-.004811
75	-.063982	-.122141	0.113486	-.049649	-0.10514	-.031527	-.036223	.0909122	-.009098	-4.8E-04	-.062555	.0086903	0.011363	-.021156
76	.0366789	0.033584	-.021691	-.024258	0.203547	.0740444	.0963444	0.107341	.0293285	.0744377	-.022492	0.102425	-.039611	-.065603
77	.0866582	0.120538	0.137055	.0759443	0.179994	.0702719	0.060465	.0308786	-.050149	0.10565	-.020699	.0543401	0.121071	-.006952
78	0.223058	.0775269	0.08515	-.026603	.0048748	.0949466	0.287923	.0878892	.0496953	0.103924	.0779322	0.187675	-.103837	-.145517
79	.0814331	-.066468	-.002276	-.058618	-.025315	0.161953	0.122086	0.170914	.0353835	.0214986	-0.01008	.0894936	-.079415	-.004163
80	0.062838	-.022741	-.044702	-0.08659	.0167817	0.100872	.0928605	0.161349	0.101961	.0718598	-.036783	.0248602	-.076246	-.011988

OBS	Q41	Q42	Q43	Q44	Q45	Q46	Q47	Q48	Q49	Q50	Q51	Q52	Q53	Q54
73	-.083636	-.092123	.0732962	0.145301	.0439221	.0035059	-.115205	.0615187	3.5E-04	-.052616	-.010763	.0162862	.0031853	.0690706
74	-.095432	-.117846	-.009831	-.037268	-.095812	.0256014	-.105879	-.026209	-0.05284	-.048862	-0.05351	.0285287	.0053953	.0019902
75	.0856608	-.029574	.0523833	.0047316	-.007763	-.095909	-.016886	.0544595	.0046073	-.017875	-.033648	.0103741	.0241279	.0501886
76	-.056126	.0075479	.0620059	.0910605	.0639563	0.085339	-7.2E-04	0.062762	.0172705	.0099581	.0669914	.0493179	.0920617	.0608321
77	-.058522	.0459968	.0238241	0.143353	.0508048	.0738179	.0404686	.0984393	.0579619	.0871719	0.10916	0.03563	.0903422	.0874065
78	-.149028	0.11214	.0112477	0.103514	.0289024	.0825489	.0735093	.0649386	0.113516	.0874774	0.053276	.0842755	0.0626	0.229202
79	-.008308	0.115048	0.137138	0.178194	0.141578	-.029311	.0893163	.0014652	0.160923	.0519499	-.033657	.0764426	0.111908	.0776988
80	-.006996	.0736732	.0198528	0.107254	.0874205	-0.03001	.0904386	.0669803	0.13874	.0031799	-.005948	.0552515	0.108912	0.134837

OBS	Q55	Q56	Q57	Q58	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10
73	-.029362	-.076318	-.081186	-.080937	.0656452	.0028319	-.049159	0.107205	0.155817	0.157691	.0421808	.0487093	.0447018	0.102581
74	-.034812	-.063529	-.014363	-.051123	.0372612	-9.4E-04	-.037399	0.218117	0.140756	0.121595	-.043256	.0708962	-.019524	0.025027
75	0.074424	.0016812	-.068156	.0025436	-.009512	.0504426	.0229925	.0955632	.0335125	0.27478	0.113664	.0766403	0.206714	0.244748
76	.0167879	.0748134	-.003456	-.022739	.0354705	0.195394	-.136548	.0479414	0.161958	0.163707	0.249164	0.186886	.0082588	0.100759
77	.0992134	.0773526	.0316914	.0102137	.0686833	0.166485	.0116327	.0417951	-.006704	.0770699	0.142514	0.152254	.0729428	0.198869
78	0.126725	.0533525	0.160174	.0222741	0.152155	0.165549	-.115594	-.085356	.0285614	-.010614	0.116846	0.124285	0.182569	0.136845
79	0.19592	0.163913	.0234921	4.1E-04	0.15707	-.040633	0.122404	.0053903	.0064207	.0563262	.0976687	.0705502	.0891932	0.111123
80	0.154521	0.099313	-.003072	.0080404	0.13069	.0263853	.0849699	-.012436	.0232139	-.006974	0.128725	0.166627	.0754269	.0917336

OBS	B11	B12	B13	B14	B15	B16	B17	B18	B19	B20	B21	B22	C1	C2
73	.0530697	1	0.555116	.0972645	0.220789	0.147649	.0904016	.0212655	.0230736	.0490581	.0979341	.0431605	0.134543	.0276979
74	.0820066	0.555116	1	-.022078	0.114029	.0849137	-0.04976	-.015808	.0274276	.0459109	.0873889	0.094397	.0485652	-.024974
75	0.187841	.0972645	-.022078	1	.0852452	0.2246	.0297742	0.231934	0.160578	0.144452	.0426478	.0244322	0.141518	.0969504
76	0.101732	0.220789	0.114029	.0852452	1	0.299948	0.140935	0.14099	0.223828	0.112077	0.225461	0.209291	0.110519	0.070272
77	0.241852	0.147649	.0849137	0.2246	0.299948	1	0.126996	0.236498	0.211549	0.201208	0.298499	-.063952	.0371729	0.159563
78	0.232099	.0904016	-0.04976	.0297742	0.140935	0.126996	1	0.186116	0.279519	0.203622	0.322479	0.156757	0.211379	0.286405
79	0.150235	.0212655	-.015808	0.231934	0.14099	0.236498	0.186116	1	0.658051	0.338905	0.360263	0.186979	0.250642	0.206231
80	0.166972	.0230736	.0274276	0.160578	0.223828	0.211549	0.279519	0.658051	1	0.325544	0.313444	0.165682	0.28483	0.180716

OBS	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
73	0.101931	.0439877	.0462159	.0687165	.0022501	.0617047	0.158163	0.12117	.0336419	0.140148	-.031787	0.101588	0.162257	0.207699
74	.0944057	.0401349	-.007038	0.140199	-.025848	.0138014	.0622266	.0632371	.0147213	0.174203	.0010062	.0702443	0.143253	0.228804
75	0.202136	0.060414	.0112037	0.110906	.0992406	.0443784	0.10914	.0914895	.0336871	.0940321	.0042101	-.020659	.0553679	-.066694
76	0.107042	0.05599	.0204306	.0934309	.0807687	0.111156	.0921283	0.145994	.0983885	0.266667	-0.03674	0.144723	0.115235	0.271938
77	0.262323	0.22006	.0637857	.0602546	0.18345	0.241632	0.152691	0.195495	.0742151	0.240145	-0.09844	0.224548	0.172411	0.179625
78	0.11265	0.251671	.0930031	0.145813	0.165681	0.226557	0.260273	0.269476	0.217479	0.204677	-.119042	0.183535	0.164554	.0015073
79	0.264878	0.23862	0.320143	0.306273	0.277503	0.189014	0.303806	0.299843	0.277436	0.270832	.0742185	0.112824	0.146905	-.003926
80	0.221128	0.210832	0.206505	0.257037	0.210015	0.118461	0.200972	0.242173	0.267477	0.319751	0.058113	.0812348	0.16683	.0602689

OBS	C17	C18	C19	C20	C21	C22	C23	C24	C25	C26	C27	C28	C29	C30
73	-.014082	.0290869	.0686447	.0055498	0.029691	-.043406	1.2E-04	-.056737	-.008497	0.479479	0.524685	0.445876	.0331739	.0235595
74	.0069677	-.003296	0.099992	0.020855	.0303236	.0596974	.0023005	0.041684	0.102954	0.338327	0.412906	0.582494	.0313303	.0598548
75	-.001167	.0562339	0.145881	.0795597	.0692205	0.166495	0.101749	-.018312	.0122642	.0668063	.0496435	.0211581	.0964074	.0076452
76	-.032976	0.226311	0.113668	0.152055	0.102448	.0688812	.0132947	.0377441	.0799156	0.204131	0.212253	0.119787	0.218639	.0645514
77	0.132462	0.103649	.0750357	0.173212	0.185192	0.132964	0.137988	0.134181	.0663546	0.100964	0.146333	0.1346	0.087926	0.107845
78	-.030564	0.180325	0.211155	0.20831	0.129439	0.297993	0.238653	0.195231	0.230848	0.208107	0.214538	0.137373	0.199733	0.113808
79	.0615698	0.382709	0.183262	0.286018	0.19909	0.300576	0.281098	0.261602	0.244963	.0834826	.0668041	0.109901	0.223319	.0369224
80	.0132018	0.281241	0.209458	0.320945	0.243265	0.265204	0.318575	0.233829	0.198385	0.134564	.0798181	0.105481	0.22018	.0545633

OBS	C31	C32	C33	C34	C35	V1	V2	V3	V4	V5	V6	V7	V8	V9
73	0.122247	.0638914	0.099879	.0600642	.0600081	.0839422	.0417177	0.117744	0.143357	-.064904	.0573327	-.031094	-2.5E-04	.0842699
74	0.138017	.0624035	.0869006	.0948325	0.145085	0.153747	.0498723	.0362885	0.109797	-.019079	-.039201	-.106034	-.063516	0.092515
75	-0.02557	.0301145	.0354211	.0224575	0.145428	-.038854	-.010735	0.125632	.0150248	.0448439	.0559356	.0045388	.0495131	0.112817
76	0.196221	.0602264	.0867416	0.179525	0.190338	0.016427	.0380303	0.109807	0.20772	.0629481	.0885952	0.129618	0.181546	-.055393
77	.0159592	0.112521	.0649802	0.109293	0.227166	.0987988	.0938929	0.139278	0.101618	0.072542	.0775581	-.034293	0.147402	-.025325
78	.0695106	.0429416	0.059425	0.114018	.0682021	0.103982	0.153724	0.236531	0.139799	0.114918	0.195372	0.247427	0.295535	0.175047
79	-.015824	.0168449	0.147667	0.217254	0.139258	0.151847	0.13122	0.228621	0.169962	0.090195	0.16295	.0070225	-.011638	0.214001
80	.0170239	.0197273	0.070065	0.236915	0.101603	.0364203	.0580119	0.207494	0.151539	.0735589	.0632313	.0174504	0.020012	0.235253

OBS	V10	V11	V12	V13	V14	V15	V16	V17	V18	V19	V20	V21	V22	V23
73	.0765156	.0736464	.0386272	.0130707	-.004898	.0477922	.0130079	.0221175	-.070549	-.011142	.0695695	-.034327	.0723033	-.055759
74	.0996554	0.104499	-.032724	.0923194	.0670994	-.040011	-.045196	-.030633	-.122214	-0.02363	.0024913	0.039869	-.031885	.0017015
75	.0898521	.0906864	.0550562	.0842083	.0530651	0.101943	0.15127	.0818904	.0838582	0.114512	.0260738	0.179284	0.14776	.0521584
76	.0983039	0.14095	-.026575	0.164418	0.109647	0.152534	.0926274	0.099301	.0706024	0.101246	0.037973	-0.00638	0.154343	0.123004
77	0.15827	0.177933	0.166818	.0897537	.0416093	.0102367	.0792799	.0302159	.0225642	.0889406	0.11615	-.106335	.0169545	.0106359
78	.0700072	0.14943	0.349798	0.216704	0.239011	0.271326	0.227668	0.164216	0.149137	0.246869	0.238002	0.174527	0.310249	0.140138
79	0.17407	0.193714	0.152868	.0824818	.0520215	0.254234	0.286645	0.245035	0.255825	0.169249	0.166187	0.239967	0.151923	.0755334
80	0.200055	0.207713	0.195844	0.213828	0.12342	0.216372	0.239942	0.189662	0.172751	0.221673	0.15263	0.206379	0.126678	.0571988

OBS	V24	V25	V26	V27	V28	V29	V30	V31	V32	V33	V34	V35	V36	V37
73	-.047028	.0802166	.0806135	0.548436	0.573528	0.128651	-.057273	0.123667	0.124894	.0779434	0.13589	.0531102	-.037775	.0465859
74	.0118577	0.148651	0.114767	0.370693	0.424149	.0760872	-0.07022	0.114423	0.072547	-.029818	0.103353	.0664861	.0311897	.0040465
75	-.006981	.0862467	0.170875	0.098812	.07009[illegible]	.0918889	0.029898	.0919603	0.141754	.0460441	.0274666	0.11579	.0872346	.0818846
76	.0400551	-.004073	.0413649	0.196491	0.23776[illegible]	0.113595	0.173781	0.445658	0.22769	0.183974	0.221396	0.102594	0.166738	0.199424
77	.0081835	-.015614	-.017914	0.167614	0.13190[illegible]	0.211584	0.124861	0.166914	.0904432	0.189006	0.103508	.0299104	.0739047	0.1142
78	-.109346	.0050648	-.007993	0.17052	0.166317	0.206026	.0620911	.0955135	0.161208	0.258815	0.191941	0.169363	0.161312	0.222214
79	.0224412	.0512483	-.034944	0.049526	.00169[illegible]	.0194567	-.075035	.0827416	0.131232	0.155923	0.165768	0.186353	0.162122	0.309467
80	.0575975	-.021222	-.091467	.0306032	4.5E-[illegible]	0.023847	-.011751	0.172173	0.173889	0.210128	0.123363	0.142197	0.185444	0.256897

OBS	V38	V39	V40	V41	V42	V43	V44	V45	V46	V47	V48	V49	V50	V51
73	-0.03598	0.145372	0.128305	0.159794	-.008112	-.043402	-.066361	-.038033	.0059838	.0372469	.0944383	.0777284	.0551676	0.103163
74	3.2E-04	0.193691	0.159169	0.126527	.0164346	-.039284	-.117697	-.037353	-.026219	-0.10566	.0123503	-.103241	-.006302	-.052679
75	-.072164	0.137119	0.202554	0.197178	0.107448	.0691464	.0257288	0.127595	.0615921	.0951674	.0177662	0.078648	-9.8E-04	0.119321
76	-.022441	0.158507	0.124616	0.146362	.0870529	-.005296	0.062368	.0547821	.0371058	.0904903	-.042823	0.131567	0.13041	0.214028
77	-.047032	0.138179	.0892768	.0495564	-.026636	0.132153	0.168193	0.206953	.0430774	0.158515	0.136897	0.20753	.0321542	.0970237
78	0.209932	.0308611	-.031885	0	.0709285	0.2091	0.257181	.0260334	0.146659	0.236523	0.168929	0.282123	0.157831	0.258969
79	0.10199	0.064949	.0256411	.0409164	.0420227	0.160812	.0285931	0.214776	0.146413	0.15131	0.102183	0.184078	0.076383	-.005329
80	.0471599	.0764584	.0121383	.0271594	.0541859	0.158492	.0300757	0.257808	0.149944	0.151435	0.147288	0.280924	0.12333	.0162797

OBS	V52	V53	V54	V55	V56	V57	V58
73	0.069757	0.119923	0.159724	0.155719	0.027436	-.009892	-.073824
74	-.007285	.0128497	.0248714	.0889479	-0.04683	0.122355	-.032202
75	0.195511	0.172571	0.199604	0.125496	0.131051	0.131885	.0925918
76	.0838214	0.101698	0.191635	0.119476	.0307703	.0500827	0.121812
77	0.148589	0.194303	0.107196	0.222122	0.166583	.0511991	0.11765
78	0.18869	0.173009	0.155742	0.20774	0.247274	.0836202	0.248078
79	0.20497	0.168125	.0937233	0.124726	0.196983	.0514965	0.159997
80	0.263637	0.19648	0.185111	0.181008	0.209268	.0513667	.0604282

OBS	_TYPE_	_NAME_	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12
81	CORR	B20	0.140846	.0320195	0.150681	-.007857	0.10756	0.105183	0.081092	0.114478	0.010705	.0610221	.0918465	.0281686
82	CORR	B21	.0455663	0.077732	0.110583	-0.06611	0.189713	.0840944	0.122925	.0720953	.0732253	.0317539	0.112222	-.041838
83	CORR	B22	0.085393	-.079875	.0498379	0.073519	.0814374	.0727576	.0819598	-.007486	.0503723	-.020932	.0146746	.0678965
84	CORR	C1	0.159119	0.080061	0.120495	-.004651	.0649949	.0923585	0.108674	.0259122	0.125146	.0122036	.0335871	.0655224
85	CORR	C2	.0652262	-.046038	.0324037	-.016489	0.108188	-.030605	0.153851	.0666197	.0107261	0.101812	.0550982	0.101059
86	CORR	C3	0.117461	.0520095	0.16374	-.040972	0.13737	.0309533	.0920137	0.130775	-.062942	.0496211	0.156138	-0.06648
87	CORR	C4	-.026897	.0601263	.0863044	.0328792	0.204125	.0279059	0.258692	.0760278	.0383553	0.20981	0.207535	0.101232
88	CORR	C5	-.016009	-.025793	0.023465	-.019402	.0935656	.0491385	0.120889	.0055097	.0323273	.0856662	.0620495	.0603545

OBS	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20	Q21	Q22	Q23	Q24	Q25	Q26
81	.0320405	.0670768	.0612855	-.003199	.0650068	.0535548	.0153504	.0425638	-.007653	0.038624	.0144122	.0184874	-.001332	.0958005
82	.0308653	0.127821	.0355199	.0490877	.0190033	.0768224	-.028219	-.018325	-.029529	-.023025	.0044013	0.107789	.0043106	.0685659
83	0.145817	.0665702	.0290754	-.024831	.0409658	.0361015	-.006448	-.033111	.0538103	0.119977	-.030379	.0233084	-0.11824	.0538564
84	0.125313	0.122475	0.147549	-.003361	3.6E-04	0.062443	0.073888	.0502585	.0249449	0.105507	.0100045	-.004544	.0180488	.0991663
85	.0004328	.0575692	2.3E-04	.0458537	.0094064	0.100409	0.139547	.0787276	-.073822	.0514619	.0101222	-.005247	.0233707	0.12331
86	.0622473	0.157445	-.009599	.0116596	0.017835	.0790494	.0249551	.0135974	-.149312	-.027093	-.001615	-.038435	.0011475	.0300925
87	.0534189	0.109778	.0106019	0.129826	-.048663	0.133167	.0539157	.0585967	-.089062	.0241869	-.088234	.0412014	-0.07343	0.159882
88	-.108614	.0597993	.0613176	-.037321	-.011718	.0453897	.0396738	-.029288	-.030058	-.014497	-.078068	.0406174	.0101372	.0275133

OBS	Q27	Q28	Q29	Q30	Q31	Q32	Q33	Q34	Q35	Q36	Q37	Q38	Q39	Q40
81	.0713267	.0528612	0.051295	.0572024	-.014281	0.159513	0.089681	.0075358	.0946987	.0427548	-.013755	0.140523	-.045035	-.094995
82	.0932911	7.2E-04	-.031646	.0038924	-.019205	.0513283	0.099368	-.001705	.0588295	0	-.010044	0.06224	-.024683	-.116652
83	-0.03555	-.107298	-.054321	.0661013	.0201873	.0117753	.0309972	-.045251	0.238881	.0026366	.0350214	.0587966	-.121788	-.102055
84	0.180134	-.006451	-.039329	-.042761	-.045725	0.104567	0.169849	.0565266	.0031822	.0549221	0.113758	.0075677	-.010204	-.033662
85	.0883388	.0455003	.0756252	-.047741	.0761769	-.009782	0.143512	.0841307	.0336059	-.011683	-.019296	-.039015	-.036271	-.085475
86	0.125071	.0661368	-.096413	-.041224	-.124257	.0861977	0.146859	0.135651	.0663443	.0914316	.0567537	0.088397	-.077908	-.057205
87	0.156906	.0647963	-.030867	.0642053	.0460338	.0898832	0.160492	.0880359	.0123339	-.027684	-.019329	0.100271	.0830473	-.029033
88	.0416293	-3.8E-04	-.106133	-.043004	.0241543	.0488358	0.109345	-.072331	.6158743	-.106128	.0215977	.0217054	-.055539	.0728029

OBS	Q41	Q42	Q43	Q44	Q45	Q46	Q47	Q48	Q49	Q50	Q51	Q52	Q53	Q54
81	-.035226	.0805412	.0599309	0.11853	.0679979	.0050364	.0472967	.0682366	.0818137	.0645373	0.134569	-.006413	0.148448	0.128212
82	-0.1531	.0825236	.0719121	0.165135	.0491116	.0598872	.0030661	.0030301	0.151019	.0800868	0.169317	0.163413	0.103276	.0413761
83	-.036925	-.021432	0.133277	0.165002	0.182705	0.056936	.0801096	.0260375	0.11715	0.125363	.0296304	.0645453	0.149099	.0315882
84	.0218961	.0625012	.0409336	.0139499	.0712103	-.081741	.0013677	-.057876	.0681187	-.036852	.0934386	.0530804	.0906429	0.140388
85	.0276858	0.108101	0.218257	0.213301	0.148149	.0120507	.0281352	-.056259	.0743428	-.030719	0.006557	.0190496	-.015032	.0336202
86	.0318245	.0192641	0.1324	0.175365	0.151022	0.075684	.0705028	.0978362	-9.7E-04	.0097107	.0759434	.0224437	.0970826	0.116632
87	.0264829	.0237337	0.251087	0.286335	.0846092	0.100429	.0078363	-.044784	0.112754	0.053956	.0573454	0.101974	0.100431	.0396141
88	.0449992	.0308645	.0730831	0.124488	0.141024	-0.07227	-.006152	-.043531	.0817922	.0163279	.0480479	-.009931	0.018378	.0239869

OBS	Q55	Q56	Q57	Q58	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10
81	.0498401	0.051342	.0616425	0.113088	0.162968	0.106239	0.133246	-.103144	-0.07288	.0193977	0.113856	0.208151	-.092599	.0154796
82	.0151005	.0728215	-0.02926	-.088345	0.146951	0.110487	.0122489	-.108951	-.059501	.0321426	0.161373	0.179916	.0017848	0.146842
83	.0025132	.0068048	.0294128	-.047881	0.049899	.0029723	.0175791	-.053967	.0406537	.0195329	0.131713	.0964293	.0218065	5.1E-04
84	.0443547	0.148003	-.057439	-.012408	0.330397	.0159229	0.128531	-.082442	.0385354	.0767654	0.062798	.0073424	.0960496	.0434309
85	.0489578	.0267367	-.014591	.0626958	0.138324	.0985553	0.072759	.0662849	0.01655	.0345042	.0911256	.0952841	.0480994	.0509708
86	0.155287	.0422011	-0.00573	.0313154	0.183249	-.041544	.0736389	-.022843	-.044234	0.064113	0.172497	.0909927	0.078374	.0293082
87	0.241262	0.141171	.0600614	.0683329	0.110375	0.046943	0.127823	.0322772	.0218933	.0473851	0.143104	.0890867	.0309505	.0511683
88	-.009048	.0925232	-0.06931	-.075308	0.266931	-.052861	0.152648	-.072864	.0393066	.0215746	.0688542	.0191419	-.065285	-.028116

OBS	B11	B12	B13	B14	B15	B16	B17	B18	B19	B20	B21	B22	C1	C2
81	0.129422	.0490581	.0459109	0.144452	0.112077	0.201208	0.203622	0.338905	0.325544	1	0.428183	0.303057	0.34979	0.216742
82	0.138978	.0979341	.0873889	.0426478	0.225461	0.298499	0.322479	0.360263	0.313444	0.428183	1	0.176202	0.258451	0.187945
83	0.154	.0431605	0.094397	.0244322	0.209291	-.063952	0.156757	0.186979	0.165682	0.303057	0.176202	1	0.165471	.0328877
84	.0807095	0.134543	.0485652	0.141518	0.110519	.0371729	0.211379	0.250642	0.28483	0.34979	0.258451	0.165471	1	0.229246
85	0.153214	.0276979	-.024974	.0969504	0.070272	0.159563	0.286405	0.206231	0.180716	0.216742	0.187945	.0328877	0.229246	1
86	0.13579	0.101931	.0944057	0.202136	0.107942	0.262323	0.11265	0.264878	0.221128	0.38416	0.265749	0.14394	0.319244	0.220946
87	0.176027	.0439877	.0401349	0.060414	0.05599	0.22006	0.251671	0.23862	0.210832	0.329898	0.234843	0.162283	0.26912	0.435347
88	.0150523	.0462159	-.007038	.0112037	.0204306	.0637857	.0938031	0.320143	0.206505	0.324545	0.208837	0.211362	0.458425	0.278853

OBS	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
81	0.38416	0.329898	0.324545	0.295842	0.280843	0.109074	0.226196	0.246982	0.201217	0.279382	0.082648	0.308568	0.207769	0.219487
82	0.265749	0.234843	0.208837	0.173084	0.182749	0.115722	0.126387	0.278305	0.237271	0.229942	-.053682	0.127407	0.207163	0.077965
83	0.14394	0.162283	0.211362	0.116818	0.131921	0.108034	0.130649	0.22928	0.150734	0.147791	.0165365	0.06798	.0402306	0.103482
84	0.319244	0.26912	0.458425	0.39281	0.2678	0.174832	0.167219	0.197034	0.375542	0.192404	0.116291	.0541463	0.145502	-6.7E-04
85	0.220946	0.435347	0.278853	0.288555	0.276372	0.17125	0.101378	0.134787	0.191664	.0860983	0.196611	0.147201	0.17967	.0946209
86	1	0.331875	0.286208	0.26757	0.325865	0.149362	0.170652	0.187236	0.195248	0.182724	.0740696	0.135018	.0378564	.0206819
87	0.331875	1	0.371197	0.310862	0.288641	0.193068	0.215179	0.255455	0.232284	0.234067	0.133137	.0947842	0.17727	0.192266
88	0.286208	0.371197	1	0.491947	0.27223	0.136956	0.152449	0.188289	0.319865	0.172407	0.156554	-.005636	.0991021	.0886066

OBS	C17	C18	C19	C20	C21	C22	C23	C24	C25	C26	C27	C28	C29	C30
81	0.120332	0.261613	0.185968	0.266056	0.224673	0.343083	0.275606	0.253783	0.22545	.0541708	0.125725	0.14945	.0990944	0.121277
82	0.163376	0.214206	0.268811	0.273215	0.283584	0.283884	0.183225	0.209901	0.278207	0.091688	0.159202	0.190281	0.212949	0.141993
83	-.078198	0.286128	0.230206	0.142148	0.118551	0.288939	0.167381	0.110711	0.266665	0.13922	0.172109	0.145778	0.14461	.0607797
84	.0807339	0.278123	0.25248	0.227871	0.246384	0.280607	0.293103	0.279949	0.172472	0.127094	0.134928	0.129877	0.22824	.0731661
85	0.158838	0.184385	0.219664	0.199436	0.20763	0.283535	0.23512	0.206568	0.144631	0.121205	.0906513	.0942469	.0136669	-.018174
86	.0634802	0.263611	0.21233	0.316646	0.301281	0.309211	0.299945	0.184718	0.209762	.0614192	.0969661	0.182763	0.102707	0.109935
87	0.163226	0.18241	0.279128	0.320128	0.308626	0.360821	0.306378	0.26057	0.198451	0.101726	0.156472	0.233591	0.115748	0.108114
88	0.100893	0.16893	0.231794	0.2358	0.265542	0.278459	0.281782	0.2944	0.19006	0.137862	0.150856	0.104553	.0567288	.0585034

OBS	C31	C32	C33	C34	C35	V1	V2	V3	V4	V5	V6	V7	V8	V9
81	.0067231	.0117309	0.161786	0.146413	0.125236	0.183372	0.253001	0.354545	0.189787	0.202	0.119648	.0698795	.0790881	0.229653
82	.0139207	0.109736	.0744562	0.138107	.0966521	0.109017	0.127241	0.211304	.0939658	.0530116	0.210227	.0051223	.0409637	0.188675
83	.0732571	0.114779	0.260787	0.27761	0.305486	0.154566	0.141581	0.146339	0.204804	.0815644	0.098624	0.112584	.0834602	0.175703
84	.0496477	0.113656	.0849299	0.169885	0.215163	0.181896	0.169217	0.168518	.0941693	0.204831	.0934138	-.029659	0.11359	0.53921
85	-.036262	-.006712	.0191681	.0416568	0.267374	0.124881	.0212603	.0914634	.0873945	.0881152	.0715956	-.050777	.0765857	0.221542
86	-.002308	0.108595	0.226954	0.207887	0.240687	0.196883	0.111997	0.263926	0.142423	0.105966	0.234144	.0055211	0.122599	0.264226
87	-.049235	0.085996	0.201678	0.174765	0.228985	0.112485	0.120165	0.190887	.0321925	.0628427	.0974856	-.014491	0.154137	0.230331
88	.0109311	.0644126	0.240172	0.173204	0.22525	0.114865	0.175434	0.134779	.0203445	0.139456	0.146258	.0082173	1.7E-04	0.373524

OBS	V10	V11	V12	V13	V14	V15	V16	V17	V18	V19	V20	V21	V22	V23
81	0.232572	0.263462	0.26398	0.174396	0.22688	0.172176	0.274347	0.245875	0.269895	0.196225	0.214642	0.185986	0.160949	0.150289
82	0.149796	0.185567	0.163179	.0784321	.0607771	0.222204	0.243021	0.234442	0.230173	0.164163	0.141152	0.163006	0.111967	.0963043
83	0.165605	0.186156	.0959503	0.278114	0.224974	0.171703	0.156299	.0605197	.0557181	.0987493	.0793975	0.202254	0.210593	.0549458
84	0.148839	0.268463	0.172279	0.131947	0.2144702	0.19	0.242161	0.186979	0.18599	.0732762	0.215327	0.293486	0.204658	0.256406
85	0.17479	0.264282	0.524081	0.287608	0.210144	0.22	0.24311	0.258543	0.215793	0.318612	0.309887	0.295831	0.185031	0.194279
86	0.245179	0.298664	0.242998	0.179606	0.173259	0.1	0.279578	0.226869	0.255259	0.174137	0.19564	0.155245	.0909991	.0617796
87	0.187666	0.253246	0.378197	0.346608	0.258204	0.2	0.284394	0.298892	0.245086	0.276774	0.32927	0.208453	0.232506	0.130066
88	0.21986	0.253664	0.238391	.0965531	0.147085	0.194498	0.297308	0.254773	0.217867	0.134615	0.202011	0.21141	.0810822	0.174509

OBS	V24	V25	V26	V27	V28	V29	V30	V31	V32	V33	V34	V35	V36	V37
81	.0993492	.0991027	.0398999	0.104909	0.138598	0.137907	.0937065	.0790723	0.279946	0.279233	0.261077	0.250981	0.148036	0.21027
82	3.9E-04	-.044467	.0077768	0.133271	0.168346	.0730168	0.116371	0.137556	.0967292	0.206255	0.182774	0.287991	0.145099	0.195066
83	.0203086	0.02224	.0259463	0.108075	0.115337	0.103315	.0619163	0.223462	0.171678	0.203216	0.15426	0.163823	.0921139	0.152194
84	0.119154	.0042241	.0639019	0.16401	0.185565	-.004556	.0245481	.0028681	0.21386	0.321308	0.17967	0.204534	0.17235	0.268771
85	.0958779	0.156345	0.12797	.0860887	.0219557	.0149232	.0230163	.0872065	0.178421	0.25479	0.183619	0.179412	0.268808	0.157499
86	0.116117	0.109196	-0.0935	0.135547	.0996426	.0236337	.0613351	0.129711	0.194672	0.212094	0.245566	0.127797	0.219022	0.184365
87	0.141475	0.121791	0.154512	0.199196	0.15852	-.036481	.0472205	.0362565	0.181904	0.192788	0.189036	0.174402	0.172739	.0827096
88	0.138677	0.124419	0.121869	0.163978	0.142162	-.093319	.0189901	.0363841	0.154455	0.275905	0.105348	0.122171	0.191863	0.179844

OBS	V38	V39	V40	V41	V42	V43	V44	V45	V46	V47	V48	V49	V50	V51
81	0.181389	0.146142	0.10862	0.131522	0.157001	0.133555	0.116934	0.159885	0.18563	0.235661	0.252195	0.212882	0.133667	.0751542
82	0.113908	.0413787	.0047751	.0058409	-.032266	0.158243	0.181905	0.162076	.0952693	0.262168	0.16048	0.23807	.0338302	0.11029
83	0.128994	0.130339	0.106298	0.10275	0.161486	-.066206	.0092941	.0154443	0.14288	.0908053	0.094622	0.100259	0.209874	0.15541
84	0.151798	.0470866	0.092215	0.145634	0.204556	0.133293	.0313735	0.139271	.0788157	0.123876	0.268801	0.19804	0.157474	0.155822
85	0.174146	0.124927	0.110644	.0914666	0.121612	0.183195	0.134773	0.147513	.0247764	.0713859	0.191403	0.155764	.0380195	0.196861
86	.0822923	0.134047	0.130452	0.107032	.0936521	0.100209	0.103643	0.189905	0.139198	0.190617	0.125466	0.184022	0.198791	0.103808
87	0.103571	0.174006	0.152438	0.14233	0.111213	0.129315	0.10777	0.198092	0.128505	0.16367	0.21054	0.17945	0.052507	0.142286
88	0.240179	.0424064	.0567036	.0944357	0.159672	0.111771	.0474774	0.149223	.0951066	.0604977	0.223759	0.156972	0.142252	0.109618

OBS	V52	V53	V54	V55	V56	V57	V58
81	0.145579	0.16693	.0175337	0.122033	0.218546	.0886213	0.197257
82	0.102684	0.196747	0.105236	0.208525	0.16181	.0210765	0.111406
83	.0752136	0.123374	.0734377	.0346686	.0141265	0.189189	0.139892
84	0.115277	0.161908	0.134486	0.197904	0.181588	0.109068	0.113644
85	0.20243	0.29965	0.257199	0.2403	0.281613	0.216808	0.157192
86	0.19112	0.248175	0.150272	0.168101	0.165518	0.127803	0.113104
87	0.120421	0.324924	0.237577	0.248009	0.24748	0.176894	0.179199
88	0.115969	0.160842	.0995866	0.183204	0.195767	0.147981	0.185128

OBS	_TYPE_	_NAME_	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12
89	CORR	C6	.0359337	-.086433	-.016725	-.058557	.0465595	.0344533	.0211895	-.061493	-.048434	-.031254	-.023178	0.113566
90	CORR	C7	.0321664	-.059168	.0920812	.0297625	0.169992	0.083278	0.203761	-.002111	-.033293	0.104501	0.160815	.0157396
91	CORR	C8	.0514819	.0567847	0.12383	.0546027	0.199784	.0528873	0.169182	0.070668	0.019639	.0306699	0.103287	.0031828
92	CORR	C9	0.119442	0.152191	0.267095	0.101258	0.160402	0.144989	0.180502	0.134852	0.085146	0.175332	0.248985	.0806277
93	CORR	C10	.0369231	0.119016	0.133776	0.135993	0.192201	0.108883	0.234597	-.004236	0.110511	0.174861	.0526681	-.021877
94	CORR	C11	.0244726	.0499078	0.057925	0.079586	0.16092	0.105498	.0653203	-.058293	0.155125	.0199167	.0626964	-0.03196
95	CORR	C12	.0559098	.0805528	.0758947	.0481838	.0938749	.0927276	0.125656	-3.5E-04	-0.0031	.0318956	0.125601	.0247097
96	CORR	C13	-.116377	-.054993	-.206675	-.024609	.0975072	-.071105	-0.02578	-.037836	-.057199	0.135928	.0697144	-.006149

OBS	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20	Q21	Q22	Q23	Q24	Q25	Q26
89	-0.03953	.0549947	.0728072	.0356973	-.005998	0.118468	.0485526	0.118905	-.093577	-.009717	-.094785	-.035121	.0856572	.0853723
90	.0439445	0.100007	.0925228	0.109237	.0332845	.0481314	0.173429	0.140789	-.039291	0.156152	-.009612	.0747667	.0013055	0.106002
91	-.066659	.0163338	-.046557	.0275772	5.2E-04	.0385539	.0920882	.0585294	-0.07185	0.103611	.0059367	0.139387	-0.00919	-0.0011
92	0.218305	0.342817	0.1481147	0.135575	.0551196	0.153294	0.110431	.0976619	0.140706	0.216486	0.109018	.0729698	.0439691	.0184449
93	0.129596	0.145579	.0402819	.0212193	.0379924	.0130315	.0006013	.0344656	-.014963	.0755665	.0527161	.0984919	0.076899	.0988659
94	.0571866	.0710677	.0032371	-.079614	-.012528	.0365556	-.008411	-.043585	.0046303	0.145486	0.134173	0.109113	0.135015	-.008995
95	0.090739	.0540258	-.049711	.0826443	.0302787	.0467997	0.040366	0.193299	.0288491	.0227335	-.034369	.0352783	0.073353	-.070513
96	-.126316	-.054471	0.075437	-.106825	-.026456	0.13899	.0339028	.0162048	.0268794	0.111819	.0498936	0.153097	.0532695	.0911814

OBS	Q27	Q28	Q29	Q30	Q31	Q32	Q33	Q34	Q35	Q36	Q37	Q38	Q39	Q40
89	0.108425	.0533672	-.131646	-.198912	.0274723	.0170337	.0215113	-.058785	.0329847	-.057873	-.016002	0.00156	-.027752	.0207379
90	.0643604	-.003407	.0808062	.0177725	-0.01608	.0950519	0.165809	0.116684	-.022829	.0221636	.0337584	0.027781	-.119889	-.058188
91	.0427001	-.012985	-.039907	-.042868	.0061886	0.039617	0.105977	.0025661	-.049558	-.013462	.0788414	.0628045	-.021309	-.067476
92	0.271257	.0878744	0.136901	.0213052	.0699306	0.129809	0.181417	0.11482	.0233905	.0979879	.0366973	0.239702	.0831257	-.013499
93	0.129814	.0962108	-.005087	.0844493	.0669522	.0864523	0.202515	0.105899	.0298315	-.003298	.0126323	0.196355	-.043503	-0.16588
94	.0545972	.0333966	.0597338	.0187251	.0526187	.0396094	.0756181	-.054588	-.097907	.0755752	0.131513	0.117917	-.060047	-.106667
95	0.017121	.0279473	.0284112	.0185091	0.148248	0.064423	.0482991	.0130123	.0747697	.0405923	-.088498	.0860595	-.030799	.0500134
96	-.029148	.0753316	-.071493	-.015645	.0064949	-.071465	-.096104	-.114644	-.038733	-.019899	-.001542	-.043026	.0189917	.0298476

OBS	Q41	Q42	Q43	Q44	Q45	Q46	Q47	Q48	Q49	Q50	Q51	Q52	Q53	Q54
89	.0302414	.0185834	0.004259	.0915347	.0110834	-.077601	0.027277	-.064643	.0429592	-.018726	.0373031	0.037006	.0609142	.0156571
90	-.027559	.0906576	.0635862	.0837523	.0462134	-.011956	-.020755	-.031401	.0497057	.0046515	-0.00809	-.007506	.0956921	.0575802
91	-0.00335	.0543578	.0984166	.0431023	.0374255	.0880297	0.155027	.0637439	-.020708	0.072981	.0075836	-.005899	-.018143	.0826236
92	2.2E-04	.0817732	.0367515	0.09563	0.073429	0.130979	0.092891	.0863774	0.211174	0.213362	0.063318	.0985333	.0354784	0.246604
93	-.077012	.0114432	.0725931	.0259444	.0497088	-.028854	0.10481	-.059302	0.071918	0.104527	.0722969	.0787638	.0909419	0.161899
94	-.128631	.0677397	.0189633	.0494136	.0758776	-.160771	0.129448	0.026609	-.102053	-0.03264	.0451676	0.035051	0.120296	-.015926
95	.0095457	.0336221	0.176675	.0812459	.0452239	.0285044	0.100767	.0516894	.0442836	.0309698	0.044	.0914055	0.134214	.0257128
96	.0802566	-.003798	.0789552	0.112949	.0282549	-.154782	-.052457	-.003533	-.063069	-.076861	-.044415	-.060484	-.055956	-.123767

OBS	Q55	Q56	Q57	Q58	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10
89	-0.04252	.0952049	-.003236	-.054292	0.140423	-.035517	0.203829	.0226595	-.024354	0.116357	-.059526	.0186767	-.125069	.0688551
90	.0552832	0.100768	-.002873	.0164136	0.165026	.0216651	.0527717	-.062801	-.020387	.0559695	0.283667	0.10191	-.022909	-.055226
91	.0826094	0.14101	-.005734	.0488665	0.280801	.0564838	0.11491	-.078184	0.062353	-.056271	0.122912	0.083117	.0719419	.0770995
92	0.149763	0.158858	0.152784	0.167943	0.051498	0.115545	.0423352	0.002832	-.043719	.0664706	0.043451	.0815556	-.015698	-.025599
93	0.038878	0.169334	.0178434	-.022076	.0449305	0.001019	0.115194	-.151183	.0319017	.0346665	0.129638	.0375617	.0158774	.0658602
94	.0077553	0.147829	-.064908	.0792956	0.1022	-.049321	0.177414	-.069848	.0665389	.0077683	0.116823	0.037564	.0437961	-.052203
95	0.141622	.0635427	.0559042	.0392043	0.179256	.0264985	0.113123	-0.05264	.0388456	-.066454	0.140476	0.166145	-.055168	.0931476
96	-.060003	.0509325	-0.02813	.0338358	.0241363	-.105667	0.404871	.0337495	0.017701	.0448352	-.044116	-.008234	-.042042	-.104411

OBS	B11	B12	B13	B14	B15	B16	B17	B18	B19	B20	B21	B22	C1	C2
89	.0956346	.0687165	0.140199	0.110906	.0934309	.0602546	0.145813	0.306273	0.257037	0.295842	0.173084	0.116818	0.39281	0.288555
90	.0897423	.0022501	-.025848	.0992406	.0807687	0.18345	0.165681	0.277503	0.210015	0.280843	0.182749	0.131921	0.2678	0.276372
91	0.148806	.0617047	.0138014	.0443784	0.111156	0.241632	0.226557	0.189014	0.118461	0.109074	0.115722	0.108034	0.174832	0.17125
92	0.113908	0.158163	.0622266	0.10914	.0921283	0.152691	0.260273	0.303806	0.200972	0.226196	0.126387	0.130649	0.167219	0.101378
93	0.189159	0.12117	.0632371	.0914895	0.145994	0.195495	0.269476	0.299843	0.242173	0.246982	0.278305	0.22928	0.197034	0.134787
94	.0140971	.0336419	.0147213	.0336871	.0983885	.0742151	0.217479	0.277436	0.267477	0.201217	0.237271	0.150734	0.375542	0.191664
95	0.147445	0.140148	0.174203	.0940321	0.266667	0.240145	0.204677	0.270832	0.319751	0.279382	0.229942	0.147791	0.192404	.0860983
96	-0.0222	-.031787	.0010062	.0042101	-0.03674	-0.09844	-.119042	.0742185	0.058113	0.082648	-.053682	.0165365	0.116291	0.196611

OBS	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
89	0.26757	0.310862	0.491947	1	0.193505	.0962177	0.155867	0.153995	0.245458	0.191102	0.241031	.0185207	.0697626	.0472227
90	0.325865	0.288641	0.27223	0.193505	1	0.372071	0.168389	0.24053	0.194425	0.138085	0.11556	0.158312	0.184708	0.127511
91	0.149362	0.193068	0.136956	.0962177	0.372071	1	0.205999	0.226357	0.294882	0.134776	0.156799	0.102717	0.267536	0.131399
92	0.170652	0.215179	0.152449	0.155867	0.168389	0.205999	1	0.302629	0.218928	0.11097	.0115415	0.225465	.0770066	-.017166
93	0.187236	0.255455	0.188289	0.153995	0.24053	0.226357	0.302629	1	0.349508	0.225652	.0361342	.0759207	0.212986	0.148143
94	0.195248	0.232284	0.319865	0.245458	0.194425	0.294882	0.218928	0.349508	1	0.362575	0.280068	0.131872	0.308988	.0794816
95	0.182724	0.234067	0.172407	0.191102	0.138085	0.134776	0.11097	0.225652	0.362575	1	.0621266	0.119806	0.282254	0.350619
96	.0740696	0.133137	0.156554	0.241031	0.11556	0.156799	.0115415	.0361342	0.280068	.0621266	1	.0186095	.0664979	.0685804

OBS	C17	C18	C19	C20	C21	C22	C23	C24	C25	C26	C27	C28	C29	C30
89	.0109404	.0673456	0.151237	0.215753	0.256129	0.22558	0.277268	0.233758	0.119869	0.116746	0.163075	0.176012	.0626022	-.110382
90	0.212011	0.219977	0.26178	0.322483	0.261692	0.2076	0.12634	0.155188	0.176421	.0088128	0.085384	0.125406	.0837732	.0951598
91	0.222126	0.16134	0.10161	0.244069	0.195005	0.153745	0.152298	0.171987	0.12101	.0793315	0.183402	0.167272	0.165628	0.180402
92	-.062748	.0934126	0.17067	0.244065	0.133404	0.164848	.0851063	.0895981	0.155766	0.159553	0.127818	.0867748	-.031746	0.13602
93	.0667846	0.325552	0.251087	0.261871	0.152882	0.282575	0.214135	0.193472	0.180899	0.173921	0.201806	0.19855	0.150872	0.140221
94	.0452843	0.237205	0.203591	0.270342	0.231603	0.251141	0.257318	0.266109	0.187826	.0858228	0.126633	0.103467	-.003013	.0081931
95	.0543693	0.20875	0.13164	0.22279	0.24179	0.193436	0.245332	0.255016	0.172409	.0808097	0.144398	0.242145	0.114961	0.100691
96	.0226837	.0933845	.0667153	0.108193	0.162974	0.142812	0.131728	0.183209	-.001993	0.038763	.0836958	0.107879	-.072869	-.234108

OBS	C31	C32	C33	C34	C35	V1	V2	V3	V4	V5	V6	V7	V8	V9
89	-.014932	-.018091	.0999807	.0820149	0.133904	0.113316	.0240687	.0497715	0.148124	0.146393	.0224664	-.023543	-0.0427	0.300056
90	-.040935	.0829668	0.114621	0.14261	0.316412	0.193708	0.217444	0.244279	0.119939	0.229016	0.231097	.0518245	0.148877	.0940608
91	-.056613	.0350036	0.184468	0.174262	0.1923	0.102713	0.147805	0.183123	0.345224	0.415835	0.195098	.0915098	0.262976	0.126269
92	-.040287	.0170504	.0958349	.0367516	.0514467	0.178369	0.122081	0.155507	0.142548	0.146623	0.148047	0.184416	-.030628	0.222729
93	-.012856	.0500601	0.264882	0.167436	0.248527	0.128647	0.138011	0.179838	0.21785	0.172958	.0758075	.0741239	.0898648	0.189936
94	-0.04349	0.120827	0.180368	0.137972	0.247507	.0664859	.0700278	0.134635	0.148384	0.281455	0.207268	-9.9E-04	.0331993	0.338148
95	0.168472	0.174174	0.182187	0.171905	0.214602	.0600948	.0546759	0.18472	0.135091	0.164156	0.104913	-0.03977	0.13744	.0464365
96	-.101051	.0075258	0.085408	-.106214	0.127956	.0751953	-.057486	-0.05022	.0965882	0.149883	-.013599	-.077138	-.012683	0.186436

OBS	V10	V11	V12	V13	V14	V15	V16	V17	V18	V19	V20	V21	V22	V23
89	0.192991	0.191503	0.232319	0.119717	0.146467	0.144792	0.22631	0.21754	0.185742	0.123083	.0886198	0.217915	.0720508	0.231007
90	0.228754	0.325955	0.153629	.0452239	.0540997	0.158049	0.165689	0.105511	0.145073	-0.02308	0.211722	0.153527	.0425605	0.11087
91	0.177649	0.320785	.0667279	0.155236	0.145247	0.221556	0.235986	0.208863	0.17496	.0243977	0.264176	0.136703	0.174679	0.181195
92	0.236885	0.176247	0.118665	0.172084	0.15589	0.181371	0.113452	0.125229	0.119689	0.110202	0.166595	0.118884	0.212354	.0744711
93	0.238674	0.282795	.0528809	.0819695	.0561668	0.195482	0.184659	0.234574	0.206891	.0409551	0.177432	0.167581	0.383473	0.130091
94	0.128741	0.181497	.0981105	0.12441	.0746528	0.252701	0.232137	0.321286	0.215318	0.052452	0.310543	0.169274	0.157326	0.199909
95	0.122047	0.160424	0.143378	0.135652	.0992955	.0793323	0.148617	0.157683	0.101162	.0955685	0.167552	.0878099	.0932715	0.110789
96	.0473311	0.11494	.0787134	.0615921	.0572218	0.11182	0.164113	0.141063	0.107692	.0935985	0.157867	0.132516	.0498563	0.19467

OBS	V24	V25	V26	V27	V28	V29	V30	V31	V32	V33	V34	V35	V36	V37
89	0.213934	0.14164	0.107541	.0896113	0.138754	-.141811	-.055251	-.043052	0.151028	0.160916	0.107041	0.096089	0.086631	.0918483
90	.0031953	-.012006	0.008303	.0703188	.0555005	.0346097	0.042189	.0540938	0.146123	0.308064	0.2368	0.13084	0.166453	0.222229
91	0.132495	-.034356	-.110678	.0773194	0.100686	.0276002	.0897827	.0453543	.0355517	0.237281	.0991212	.0740852	0.169021	0.220324
92	.0232231	.0082606	0.102762	0.177961	0.14631	0.121124	0.00135	.0976548	.0853231	0.084446	0.139974	.0895469	.0208413	0.260904
93	0.105821	.0733716	.0371429	0.16216	0.106493	.0354132	.0499303	.0843505	.0119054	0.114286	0.092625	.0685666	.0853078	0.217841
94	0.261038	.0995817	.0261455	.0632622	.0814845	-.049611	.0906163	.0646766	0.042574	0.231368	.0807988	.0826952	0.121826	0.253041
95	0.145444	.0429409	-.064675	.0423121	0.121022	.0435052	0.112589	0.315316	0.153872	0.261798	0.187827	0.130063	.0161929	.0994023
96	0.493745	0.214016	.0578869	-.032511	.0051644	-.163145	.0219159	-.178942	-.025986	.0384868	-0.07176	-.047236	.0898013	-.046374

OBS	V38	V39	V40	V41	V42	V43	V44	V45	V46	V47	V48	V49	V50	V51
89	.0719682	0.134415	0.135761	0.108595	0.137585	0.108192	0.00615	0.133596	.0649407	.0327497	0.150849	.0722827	.0508569	.0243902
90	0.292419	.0133939	.0380657	.0226329	0.170888	0.179937	0.153838	0.257877	0.146776	0.228973	0.219199	0.247142	0.157414	0.128938
91	0.229775	.0278569	.0683256	.0486008	0.130988	0.218893	0.203176	0.131629	.0896203	0.171597	0.258242	0.115673	0.178299	0.198415
92	.0633359	0.114017	.0286779	.0377286	0.106601	.0595757	-.004194	-.030102	.0812376	0.142761	0.113962	0.151879	.0553102	-2.8E-04
93	0.129615	.0983754	.0864892	0.095739	.0910609	0.15855	0.102646	0.109394	0.11396	0.208563	0.152274	0.186212	0.188045	0.111276
94	0.180223	.0189117	.0273377	.0531634	0.138956	0.205815	0.180976	0.10697	-.010336	.0297538	0.14936	.0815117	0.115693	.0569126
95	.0490979	.0549581	.0623066	.0905517	.0556427	0.075165	.0056738	0.100265	.0495033	0.105449	0.104481	0.154157	0.167662	0.062055
96	-.018567	.0735523	.0736447	.0422314	.0847018	.0100165	.0019405	.0752091	-.077984	-.127982	.0059734	-.109986	-.050033	.0086397

OBS	V52	V53	V54	V55	V56	V57	V58
89	0.102924	0.113961	.0620759	0.161874	0.136244	.0353175	.0966808
90	0.127866	0.158414	0.116582	0.236	0.184247	0.136421	0.168103
91	0.162882	0.249217	.0926743	0.291711	0.234663	.0013226	0.165333
92	0.110405	0.114588	.0521677	.0426639	.0810151	.0301032	0.188736
93	0.105406	0.16361	.0659932	0.17763	0.160167	0.037504	0.233059
94	0.124282	0.141574	0.120217	0.162304	0.195509	.0845221	0.169956
95	0.126156	0.18645	.0811232	0.159481	.0680358	0.160029	0.111949
96	.0467795	0.121734	.0484828	.0930081	.0812448	.0531656	0.023369

OBS	V24	V25	V26	V27	V28	V29	V30	V31	V32	V33	V34	V35	V36	V37
89	0.213934	0.14164	0.107541	.0826113	0.138754	-.141811	-.055251	-.043052	0.151028	0.160916	0.107041	0.096089	0.086631	.0918483
90	.0031953	-.012006	0.008303	.0703188	.0555005	.0346097	0.042189	.0540938	0.146123	0.308064	0.2368	0.13084	0.166453	0.222229
91	0.132495	-.034356	-.110678	.0773194	0.100686	.0276002	.0897827	.0453543	.0355517	0.237281	.0991212	.0740852	0.169021	0.220324
92	.0232231	.0082606	0.102762	0.177961	0.14631	0.121124	0.00135	.0975548	.0853231	0.084446	0.139974	.0895469	.0208413	0.260904
93	0.105821	.0733716	.0371429	0.16216	0.106493	.0354132	.0499303	.0843505	.0119054	0.114286	0.092625	.0685666	.0853078	0.217841
94	0.261038	.0995817	.0261455	.0632622	.0814845	-.049611	.0906163	.0646766	0.042574	0.231368	.0807988	.0826952	0.121826	0.253041
95	0.145444	.0429409	-.064675	.0423121	0.121022	.0435052	0.112589	0.315316	0.153872	0.261798	0.187827	0.130063	.0161929	.0994023
96	0.493745	0.214016	.0578869	-.032511	.0051644	-.163145	.0219159	-.178942	-.025986	.0384868	-0.07176	-.047236	.0898013	-.046374

OBS	V38	V39	V40	V41	V42	V43	V44	V45	V46	V47	V48	V49	V50	V51
89	.0719682	0.134415	0.135761	0.108595	0.137585	0.108192	0.00615	0.133596	.0649407	.0327497	0.150849	.0722827	.0508569	.0243902
90	0.292419	.0133939	.0380657	.0226329	0.170888	0.179937	0.153838	0.257877	0.146776	0.228973	0.219199	0.247142	0.157414	0.128938
91	0.229775	.0278589	.0663256	.0486008	0.130988	0.218893	0.203176	0.131629	.0896203	0.171597	0.258242	0.115673	0.178299	0.198415
92	.0633359	0.114017	.0286779	.0377286	0.106601	.0595757	-.00655	.030102	.0812376	0.142761	0.113962	0.151879	.0553102	-2.8E-04
93	0.129615	.0983754	.0864892	0.095739	.0910609	0.15855	0.102646	0.109394	0.11396	0.208563	0.152274	0.186212	0.188045	0.111276
94	0.180223	.0189117	.0273377	.0531634	0.138956	0.205815	0.180976	0.10697	-.010336	.0297538	0.14936	.0815117	0.115693	.0569126
95	.0490979	.0549581	.0623066	.0905517	.0556427	0.075165	.0856738	0.100265	.0495033	0.105443	0.104481	0.154157	0.167662	0.062055
96	-.018567	.0735523	.0736447	.0422314	.0847018	.0100165	.0019405	.0752091	-.077984	-.027982	.0059734	-.109986	-.050833	.0086397

OBS	V52	V53	V54	V55	V56	V57	V58
89	0.102924	0.113961	.0620759	0.161874	0.136244	.0353175	.0966808
90	0.127866	0.158414	0.116582	0.236	0.184247	0.136421	0.168103
91	0.162882	0.249817	.0926743	0.291711	0.234663	.0013226	0.165333
92	0.110405	0.114588	.0521677	.0426639	.0810151	.0301032	0.188736
93	0.105406	0.16361	.0659932	0.17763	0.160167	0.037504	0.233059
94	0.124282	0.141574	0.120217	0.162304	0.195509	.0045221	0.169956
95	0.126156	0.18645	.0811232	0.159481	.0680358	0.160029	0.111949
96	.0467795	0.121734	.0484828	.0930081	.0812448	.0531656	0.023369

OBS	_TYPE_	_NAME_	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12
97	CORR	C14	0.148961	0.116174	0.259852	.0754963	.0436416	0.154452	0.152836	0.128311	-.027288	.0911709	0.181911	0.090702
98	CORR	C15	-.023633	.0237953	0.115032	.0616032	0.141382	.0836375	0.107211	-.019835	.0251834	.0585028	0.168525	-.061883
99	CORR	C16	-.104777	.0082289	-.097498	-.023805	.0419602	-.026132	-.009429	-.089675	-.059616	.0027785	0.148516	-.012249
100	CORR	C17	-.190794	-.004834	.0034532	-.004508	0.214971	-.015769	-.019709	-.032709	.0378816	-.138663	.0761243	-.113209
101	CORR	C18	0.15501	0.101934	0.151354	0.18102	0.147612	0.162492	0.189152	0.136675	.0971714	0.104229	0.167162	.0921007
102	CORR	C19	.0954062	.0886162	0.079063	0.110379	0.114329	.0571687	0.166827	.0631355	0.105609	0.200077	0.16438	.0394078
103	CORR	C20	0.158218	0.10514	0.130415	.0937697	.0884695	0.192618	0.220156	.0847913	0.118066	0.19819	0.28649	-.057046
104	CORR	C21	0.126712	.0842891	0.137557	.0344746	0.193286	0.208525	0.129743	0.071595	0.109688	0.190561	0.265507	0.004657

OBS	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20	Q21	Q22	Q23	Q24	Q25	Q26
97	0.163062	0.20784	-0.0246	.0099822	.0671361	.0272099	0.122431	.0720368	.0284738	.0112166	-.019796	.0389261	.0274205	-.032907
98	.0526318	.0371935	.0191013	.0070781	.0361311	.0548045	.0550135	.0720363	-.039161	0.115669	-.065772	0.10145	.0249015	-.054768
99	-.146985	-.057676	-.009743	.0022269	.0437351	-.013676	.0653209	.0880811	-.089668	0.004046	-.071628	0.121962	-.060299	-.059164
100	-.126155	-.020635	-.129641	-.074397	-.021652	-.050508	-.010797	-.071342	-0.05318	-.047378	-.094838	0.12448	-0.13563	-.017555
101	0.176362	0.158799	.0234961	.0210951	.0976299	.0653267	0.137758	.0559762	.0110603	.0431309	0.112764	.0120634	-.002984	-.042849
102	0.128986	0.164931	.0856393	0.122992	.0381594	0.179024	0.195662	0.136109	.0542767	0.18252	.0079084	.0055694	-.010571	0.174954
103	0.152202	0.173732	.0488264	0.159836	.0336476	0.176297	0.128255	.0686923	.0170066	.0925082	-.010081	.0640494	-.073958	0.210808
104	.0923192	0.218407	.0652925	0.100307	.0104263	0.213299	0.169669	.0633632	.0451942	.0802859	-.095914	.0385866	-.090552	0.23365

OBS	Q27	Q28	Q29	Q30	Q31	Q32	Q33	Q34	Q35	Q36	Q37	Q38	Q39	Q40
97	.0915591	0.092465	0.230347	.0604673	.0551403	0.1378	.0950547	-0.02028	.0062311	0.106011	.0619406	.0725869	-6.5E-04	-.073695
98	.0388672	.0340103	0.102181	0.079982	0.121404	.0093345	.0455944	.0194824	.0386161	-.006114	.0343387	.0277717	-.034289	-.031613
99	-.035321	.0177365	-.025609	-.011999	0.207582	.0245975	-.055309	-.092425	.0342123	-.179084	-0.02841	-.057491	.0107594	-.021157
100	-.057671	-.025278	-.021696	.0236183	.0061955	-.035384	-0.04484	-1.3E-04	-.022616	-.137385	.0884362	-.046888	-.011848	-.113659
101	.0831961	-.034036	.0033036	.0599843	-.008458	0.125613	0.105844	0.204462	0.115765	0.107885	.0915782	0.148277	-.019527	-.137945
102	0.162603	0.116626	-.035009	-.007302	0.092407	0.186049	0.250899	0.154772	0.175927	0.134623	.0907543	0.152764	.0135534	-.061899
103	0.124847	0.172556	-.041995	.0587916	0.120641	.0586528	0.251404	0.182667	0.126691	0.20571	.0498734	0.167995	-.031469	-.044934
104	.0826633	0.165214	-.044534	-.041081	0.152222	.0036556	0.210559	0.129639	0.104026	0.154818	.0928861	0.183368	-.022406	.0617041

OBS	Q41	Q42	Q43	Q44	Q45	Q46	Q47	Q48	Q49	Q50	Q51	Q52	Q53	Q54
97	-.057553	.0273847	-.086898	.0271517	.0729896	0.164278	-0.01845	0.032478	0.112061	.0468381	-0.01305	-.026877	.0653853	0.150035
98	-0.06399	.0964854	-0.00272	-0.03509	-.036392	-.046946	0.036932	0.012047	-.043165	.0456961	.0366994	0.016557	.0282819	.0181615
99	-.058821	-.095547	.0318771	.0359076	-.014667	.0846796	-.018995	-.011082	-.044719	-.089205	.0522085	-.075259	-1.4E-04	-.027005
100	-.067342	-0.10634	-.042502	-.016202	.0056411	.0307999	-.081013	-.044204	.0499211	.0234274	.0794392	-.039587	-.025264	-.034492
101	-.094314	0.149702	0.17889	.0962284	0.102419	.0725314	0.156699	0.042881	0.123526	0.17267	.0018844	.0427934	.0915516	0.157372
102	-.112154	.0996308	.0802919	.0364658	-.047834	.0801887	-.011266	-.045435	.0637474	-8.6E-04	.0589867	0.239182	0.101419	0.090478
103	-.016703	0.113852	0.167303	0.155447	.0730256	0.118805	0.116205	0.037211	.0587523	0.10448	.0429499	0.242234	0.104223	.0760453
104	.0085865	.0352174	.0852981	0.15141	.0824576	0.157942	.0954015	.0264333	.0046649	.0281213	0.141633	0.15465	.0642343	0.102629

OBS	Q55	Q56	Q57	Q58	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10
97	-.024221	.0255341	0.14393	0.198083	-.003736	0.165916	-.075502	-.041321	.0593725	0.037479	.0678169	0.364781	-.055013	0.114301
98	.0355751	-.050192	-0.01753	0.112254	0.168435	0.13466	-.002772	-0.12331	-.002865	-.089183	0.210206	0.194518	.0011716	-.003329
99	-.070807	-.021555	-.077172	.0325215	.0356522	0.052935	.0242279	-.054397	.0060294	-.012515	.0355795	0.144549	-0.09786	-.021038
100	-.012079	-.074955	-.118057	.0552971	0.202236	0.168551	.0159302	-.071736	0.026722	.0328499	0.124776	0.132587	-.001539	.0843296
101	0.17979	0.156838	.0474712	.0916653	0.174728	.0530935	.0553939	-.089044	-.090976	.0014919	0.230693	.0234147	0.14211	.0785817
102	0.144277	.0997501	-.013203	.0802564	0.274867	.0634641	-.013694	-.059121	.0769643	0.128785	0.161838	.0220606	0.169173	.0396171
103	0.202756	0.251978	.0371119	0.132049	0.27416	0.124038	-0.0113	-.123437	-.003024	-.055946	0.178466	0.124314	0.141277	0.080526
104	0.16836	0.143169	.0145411	0.127314	0.282616	0.061807	0.029384	-.089393	.0960246	-.006535	0.107749	.0716311	0.076646	.0310218

OBS	B11	B12	B13	B14	B15	B16	B17	B18	B19	B20	B21	B22	C1	C2
97	0.145560	0.101588	.0702443	-.020659	0.144723	0.224548	0.183535	0.112824	.0812340	0.308568	0.127407	0.06798	.0541463	0.147201
98	0.109499	0.162257	0.143253	.0553679	0.115235	0.172411	0.164554	0.146905	0.16683	0.207769	0.207163	.0402306	0.145502	0.17967
99	.0530277	0.207699	0.228804	-.066694	0.271938	0.179625	.0015073	-.003926	.0602689	0.219487	0.077965	0.103482	-6.7E-04	.0945209
100	.0429731	-.014082	.0069677	-.001167	-.032976	0.132462	-.030564	.0615698	.0132018	0.120332	0.163376	-.078198	.0807339	0.158838
101	0.170785	.0290669	-.003296	0.0562339	0.226311	0.103649	0.180325	0.382709	0.281241	0.261613	0.214206	0.286128	0.278123	0.184385
102	.0825072	.0686947	0.099992	0.145881	0.113668	.0750357	0.211155	0.183262	0.209458	0.185968	0.268811	0.230206	0.25248	0.219664
103	0.15034	.0055498	0.020855	.0795597	0.152055	0.173212	0.20831	0.286018	0.320945	0.266056	0.273215	0.142148	0.227871	0.199436
104	.0433009	0.029691	.0303236	.0692205	0.102448	0.185192	0.129439	0.19909	0.243265	0.224673	0.283584	0.118551	0.246384	0.20763

OBS	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
97	0.105018	.0947842	-.005636	.0185207	0.158312	0.102717	0.225465	.0759207	0.131872	0.119806	.0186095	1	0.160997	0.179393
98	.0378564	0.17727	.0991021	.0697626	0.184708	0.267536	.0770066	0.212986	0.308988	0.282254	.0664979	0.160997	1	0.178604
99	.0206819	0.192266	.0886066	.0472227	0.127511	0.131399	-.017165	0.148143	.0794816	0.350619	.0685804	0.179393	0.178604	1
100	.0834802	0.163226	0.100893	.0109404	0.212011	0.222126	-.062748	.0667846	.0452843	.0543693	.0226837	0.189333	0.296867	0.3658
101	0.263611	0.18241	0.16893	.0673456	0.219977	0.16134	.0934126	0.325552	0.237205	0.20875	.0933845	0.201504	.0761187	0.237423
102	0.21233	0.279128	0.231794	0.151237	0.26178	0.10161	0.17067	0.251087	0.203591	0.13164	.0657153	-.043099	.0895498	.0622818
103	0.316646	0.320178	0.2358	0.215753	0.322483	0.244069	0.244065	0.261871	0.270342	0.22279	0.108193	.0624175	0.122923	.0712557
104	0.301281	0.308626	0.265542	0.256129	0.261692	0.195005	0.133404	0.152882	0.231603	0.24179	0.162974	.0319308	0.15821	0.141738

OBS	C17	C18	C19	C20	C21	C22	C23	C24	C25	C26	C27	C28	C29	C30
97	0.189333	0.201504	-.043099	.0624175	.0319308	.0449539	0.110195	.0779958	0.127876	0.134812	.0832535	0.112743	.0260534	0.103123
98	0.296867	.0761187	.0895498	0.122923	0.15821	0.11362	0.172345	0.153453	.0921186	.0878718	0.191559	0.234812	.0590965	.0458209
99	0.3658	0.237423	.0622818	.0712557	0.141738	0.137281	0.103934	0.176505	0.121675	0.155507	0.208065	0.287738	.0089201	0.1251
100	1	0.266174	.0860748	.0756536	0.154128	0.144956	0.131102	0.186082	0.10257	.0315889	.0704457	.0794758	.0996108	0.186905
101	0.266174	1	0.247747	0.286783	0.205377	0.371344	0.289134	0.313659	0.303396	.0837505	0.126312	0.135401	0.273084	0.208756
102	.0860748	0.247747	1	0.684191	0.606678	0.590706	0.425911	0.427859	0.427087	0.149417	0.153962	0.126218	0.100532	0.215487
103	.0756536	0.286783	0.684191	1	0.765106	0.616267	0.548792	0.477085	0.418031	.0982753	0.154651	0.124043	0.138455	0.115484
104	0.154128	0.205377	0.606678	0.765106	1	0.571737	0.567778	0.525463	0.32813	.0665318	0.183093	0.131877	.0370401	.0732956

OBS	C31	C32	C33	C34	C35	V1	V2	V3	V4	V5	V6	V7	V8	V9
97	0.08214	.0165617	.0835293	.0107545	-9.6E-04	0.217711	0.126121	0.123331	.0637875	0.056056	0.007816	.0875672	0.056711	-.058186
98	.0457749	0.137732	.0795175	0.14787	0.141367	.0689876	0.103406	0.17409	.0886131	0.159461	0.247302	-.010473	0.120679	.0688492
99	0.1044	.0944269	0.131603	0.144162	0.24834	0.076228	.0597343	.0730999	0.128615	.0713929	.0069329	.0198084	0.112267	-0.07844
100	-.007925	0.150293	.0393197	0.11151	0.196814	.0901419	0.15284	.0441491	.0454075	0.11965	.0664997	5.4E-04	0.103784	.0351554
101	0.108395	.0882058	0.171909	0.139237	0.345627	0.216742	0.213362	0.159773	0.265851	0.20418	.0866747	0.082791	0.207458	0.21705
102	-0.01291	0.230892	0.228384	0.12561	0.194807	0.137107	0.138746	0.163979	.0899092	0.218945	0.188522	.0100372	.0980496	0.302116
103	.0132407	.0982896	0.217186	0.102761	0.120589	0.16201	0.19217	0.232203	0.179139	0.258332	0.153294	.0443019	0.139279	0.287121
104	-.035653	.0966915	0.174445	0.120042	0.139576	0.164302	0.143994	0.174525	0.121864	0.179192	0.122607	-.015163	0.123374	0.266991

OBS	V10	V11	V12	V13	V14	V15	V16	V17	V18	V19	V20	V21	V22	V23
97	0.196197	0.117364	0.167362	.0890954	0.159087	.0327729	.0442273	0.017412	.0907118	.0949759	0.155247	-.018138	0.101569	-.032977
98	0.239056	0.254201	0.164611	0.131315	0.155406	0.101046	.0937469	0.146626	.0755648	.0991112	0.181234	.0218129	.0566393	0.156037
99	0.177186	.0913309	0.106676	0.17084	0.167595	.0849259	0.151086	0.172965	0.121802	.0493563	0.124034	0.111636	.0999326	.0992829
100	0.184674	0.183333	.0918889	.0834199	0.132251	0.151887	0.17021	.0976474	0.113907	.0996003	0.133321	0.120428	.0966592	0.146623
101	0.295617	0.295302	0.168917	0.194751	0.119381	0.25017	0.273941	0.285008	0.277334	0.158992	0.263633	0.235276	0.292667	0.137774
102	0.232811	0.328434	0.201303	0.153384	0.084035	0.445947	0.317992	0.306741	0.290761	0.233737	0.449509	0.360071	0.316769	0.189634
103	0.338246	0.339697	0.206163	0.136758	.0814998	0.348294	0.415771	0.380642	0.369162	0.204007	0.391256	0.289415	0.23147	0.12978
104	0.29909	0.325948	0.229959	0.151488	0.150091	0.281535	0.471954	0.38267	0.367322	0.244623	0.42016	0.270372	0.166804	0.204507

OBS	V24	V25	V26	V27	V28	V29	V30	V31	V32	V33	V34	V35	V36	V37
97	-.018345	-.005794	-.061401	.0732722	0.127268	0.569	0.127504	.0872401	0.130753	0.172131	0.187302	0.071743	.0308783	0.106069
98	.0701257	-.017483	-.194039	0.105173	0.158369	.0626028	0.174599	0.121632	.0618848	0.149125	.0852971	.0183922	0.152605	0.241722
99	0.140746	0.1449G7	.0278675	0.124872	0.156889	.0688037	0.210127	0.18059	0.204275	0.160979	0.200483	0.123749	0.124997	0.109886
100	.0762987	.0493518	-.029267	.0773162	.0671664	0.172734	0.168717	.0107832	0.152031	.0974115	.0965674	.0189418	0.223163	0.141726
101	0.107793	.0896687	.0323223	0.104522	.0631276	0.129961	0.114674	0.139623	0.22453	0.244686	0.279112	0.191257	0.303229	0.288517
102	0.117544	0.130911	0.151645	0.097122	0.091853	-.036271	.0409361	0.084863	0.101276	0.251256	0.141446	0.266059	0.185833	0.181963
103	0.106387	.0349246	-.002536	0.101975	.0820923	-0.03804	.0620699	.0992758	0.079263	0.214332	0.141632	0.160035	0.131612	0.140291
104	0.137971	.0429833	-.045235	.0458473	0.072682	-.053051	.0656499	.0272138	0.11279	0.234818	0.1284	0.161891	0.169421	0.124085

OBS	V38	V39	V40	V41	V42	V43	V44	V45	V46	V47	V48	V49	V50	V51
97	.0112975	.0511986	.0278651	-.030407	.0734122	.0844555	0.115537	.0980785	.0668498	0.16101	0.105809	0.144404	0.130595	.0884262
98	0.277641	.0967832	0.104695	0.141327	0.121464	0.136919	0.164004	.0520858	0.104724	0.174623	0.196265	0.12099	0.15829	0.153971
99	.0975617	0.182736	0.154491	0.131024	.0758215	0	.0415893	.0915583	.0347573	.0826562	6.4E-04	.0199273	0.115659	0.102379
100	0.214563	0.106654	0.152067	0.150121	.0608728	0.147581	0.174553	0.204509	.0861527	0.195325	.0768466	.0986928	0.048112	0.167821
101	0.173613	0.154174	0.1592	0.165261	.0758518	.0439898	.0240209	.0693906	0.114238	0.138002	0.166606	0.207649	0.29613	0.126727
102	0.137556	0.182617	0.183845	0.162796	0.199221	0.300177	0.175027	0.15364	0.152926	0.194192	0.134889	0.144637	.0625589	0.2037
103	0.103226	.0948951	0.11507	.0898819	0.130971	0.287685	0.172074	0.271081	0.190882	0.301396	0.248389	0.259416	0.120982	0.13382
104	0.138695	.0922508	0.139511	.0821228	0.126501	0.265201	0.178998	0.259479	0.203708	0.27361	0.214716	0.174402	0.12607	0.162013

OBS	V52	V53	V54	V55	V56	V57	V58
97	.0964451	0.11228	.0399813	.0621923	0.099205	0.203516	0.162638
98	.0777538	0.10578	0.102189	0.11212	.0483334	0.170204	0.193956
99	0.130117	0.293104	0.151641	0.21416	0.123766	0.189845	0.113137
100	0.155656	0.269464	0.146612	0.207393	0.149123	0.168314	0.120979
101	0.147243	0.215712	0.209731	0.210298	0.286012	0.221505	0.240939
102	0.218064	0.170929	0.217608	0.328329	0.292108	0.164222	0.256676
103	0.198581	0.271771	0.214315	0.406721	0.37172	0.101159	0.247695
104	0.25334	0.290023	0.210411	0.437874	0.371794	0.162947	0.309448

OBS	_TYPE_	_NAME_	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12
105	CORR	C22	0.133598	.0935271	0.117005	.0749854	.0836281	0.128434	0.132989	.0[illegible]3888	.0244509	0.170515	0.166792	.0076158
106	CORR	C23	0.121343	0.102165	0.113682	.0670784	.0763144	0.151946	0.161086	.06[illegible]926	0.103132	0.14957	0.163194	.0753641
107	CORR	C24	0.110092	0.140746	.0963431	.0734683	0.103679	.0462983	.0869416	.0540559	.0778381	0.167007	0.15861	.0363884
108	CORR	C25	0.115157	0.102377	0.104937	.0344244	0.113336	0.092693	0.128138	-.021298	-.017859	.0760621	0.175897	.0249486
109	CORR	C26	.0618961	.0968563	.0426596	.0319195	.0097837	.0525936	.0263518	.0751276	.0521493	.0650154	.0759665	0.063631
110	CORR	C27	.0684636	.0247382	.0392212	-.010829	.0751591	.0656457	0.08413	.0497546	0.121033	0.015593	.0727967	.0917771
111	CORR	C28	-.045161	-.035852	-.036481	-.064417	.0126141	.0398474	-.033259	-.046838	-.028828	0.071289	.0430305	-.002155
112	CORR	C29	0.226657	0.109013	0.10674	-.065476	.0269441	.0909913	.0778071	0.113725	.0825817	-.042766	2.8E-04	-.044798

OBS	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20	Q21	Q22	Q23	Q24	Q25	Q26
105	0.114734	0.198144	0.052924	.0625446	.0517865	0.220739	0.104287	0.109655	.0020777	.0640129	.0093888	-.025795	-.025789	0.160023
106	0.103528	0.242588	.0703804	.0448467	.0338371	0.220714	0.123733	0.107001	-.113717	.0407922	-.070686	5.8E-04	-.056277	0.127002
107	0.04477	0.204407	0.119394	.0591445	.0210287	0.208756	.0880465	0.131565	-.022823	.0817929	.0204651	.0829029	.0019806	.0872001
108	.0816475	0.126487	0.129133	0.157595	.0102535	0.110787	.0336845	.0355382	.0069427	-.040052	0.064416	-.037515	.0393941	.0553777
109	0.150187	0.116505	-.073149	.0750563	.0910772	.0470755	.0049009	0.007338	-.072022	-.010182	-.070645	-.103413	.0438622	-.071215
110	.0931972	0.108841	-.040546	.0858711	0.101723	.0540969	.0855691	.0441791	-.059599	.0012631	-.119371	-.042946	.0437357	-.011706
111	.0047428	-.014157	-.023276	.0404683	.0305234	-.030318	.0066425	.0208535	-.151126	.0133959	-.157349	.0342963	.0641753	-.036284
112	0.209745	.0776743	-.022132	.0176486	-.023489	-.073961	1.1E-04	-.041998	-.041895	-.011909	-.047911	.0011427	-.023605	.0751916

OBS	Q27	Q28	Q29	Q30	Q31	Q32	Q33	Q34	Q35	Q36	Q37	Q38	Q39	Q40
105	0.101819	.0559668	-.059177	-.023348	7.2E-04	0.071649	0.19602	0.102579	.0879974	0.110196	-.003853	0.13421	-.058941	-.140638
106	0.053126	.0885504	-.043746	-.041057	0.107557	.0575572	0.1667	0.097604	.0264306	0.111314	.0490169	0.160521	-.042015	-.024727
107	0.119224	0.127426	-0.04569	.0566749	0.171043	0.120423	0.212652	0.113394	.0547362	0.108563	0.108666	0.169435	.0145293	-.066661
108	.0652556	.0336125	-.074048	-.065024	-.017341	0.119597	0.171241	.0552218	0.128363	.0539638	.0673664	0.114533	.0012407	-.055776
109	0.276578	0.147626	-0.03797	-.056283	.0481652	-.034566	0.106583	.0231349	-.025403	0.019307	.0476297	.0737943	-.049815	-.072489
110	0.202563	0.170313	-.059544	-.047949	.0782985	.0013656	.0728074	-.017827	-.038702	-.049369	.0453784	0.055877	-.021037	-.054138
111	0.157402	0.162144	-.098518	-.077306	.0449685	-0.05199	-.019292	-2.2E-04	.0526898	-.109566	-.011453	-.030662	-.040311	-.015314
112	0.082754	-.003034	-.005886	-.060833	.0718506	.0915204	0.114765	0.183801	0.208681	0.108204	0.093841	.0292013	.0436722	.0672063

OBS	Q41	Q42	Q43	Q44	Q45	Q46	Q47	Q48	Q49	Q50	Q51	Q52	Q53	Q54
105	-.131078	.0917091	0.129813	0.170977	.0119942	.0500634	0.100368	-.002992	.0777246	.0949378	.0693232	0.124016	0.105734	0.115104
106	.0143312	.0422668	.0497335	.0908926	.0097698	-.012994	.0580975	.0066093	.0172841	.0358428	.0945625	.0462146	.0379209	0.112906
107	-.046721	.0810858	.0555149	0.102351	-.030199	.0203386	.0551502	-.067991	.0882067	.0786341	0.126488	0.120508	.0430548	0.161926
108	-.093166	0.165697	0.108898	0.110711	.0482248	0.113328	.0549709	-.083169	0.073621	.0667488	.0808086	0.264133	.0447293	.0901534
109	-.127939	-.053155	.0518494	0.149538	.0728436	.0581619	.0201972	.0859655	.0729468	-.072626	-.093319	0.113514	.0983101	0.148534
110	-.086178	-.033883	0.103732	0.174052	0.121152	.0857142	.0476622	.0831886	.0840669	-.028714	.0212567	0.131497	0.133213	0.136388
111	-.140459	-.014995	0.110609	0.142539	-.036163	.0023022	-.005587	.0469028	-.001553	-.051132	-.088712	.0884459	0.137303	.0185297
112	.0367887	0.104579	0.104156	0.123946	.0087142	0.124237	.0398071	-.012618	0.115644	.0095799	-.068837	.0801018	.0278361	0.109295

OBS	Q55	Q56	Q57	Q58	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10
105	0.161643	0.185688	.0796893	0.107566	0.22389	0.154895	0.102753	-.052023	.0169556	.0625663	.0408292	.0615517	0.12799	0.104621
106	0.105224	0.117611	.0078735	0.118671	0.246702	.0978452	0.164676	-.096606	0.036299	-.090304	0.056228	.0676732	.0903464	0.11408
107	0.178669	0.207266	.0503296	.0890711	0.264105	.0355889	0.152551	-.127546	.0026586	-.038029	.0168631	-.015536	.0692463	0.07738
108	0.147914	0.103086	.0937104	0.050276	0.172942	0.149735	0.041817	-.060733	.0391575	.0646351	-.074199	0.10099	0.128902	0.157345
109	.0775279	.0308601	.0022988	.0499511	.0273176	.0706736	-.122851	0.129206	0.131313	0.156676	.0844092	0.122627	.0793047	0.146017
110	.0824483	.0513664	.0208363	.0042185	0.094263	.0107043	-.051533	0.11074	0.110871	0.157278	0.136843	0.1059[illegible]	.0111892	0.119229
111	.0140798	0.031993	.0441179	-.009123	.0987232	-0.04207	.0454635	0.130019	.0725672	0.104507	.0586025	.0845338	.0427204	.0730742
112	.0692439	.0813822	.0724698	-0.08921	0.259452	.0037168	-.065274	0.101854	.0712839	0.093846	0.136035	.0133318	0.282006	0.215946

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