

CHAPTER 3

TEST RESULTS

While there are many reasons which may (and no doubt will) be adduced for doubting the validity of the results given in this chapter, it is certain that the figures can only be considered statistically correct within a range which varies according to the number of searches on which they are based. In comparison with some other investigations which have been reported, the test programme has been large, and this enables the standard error to be correspondingly lower.

The basic equation which is used to ascertain the standard error is given as:

$$\sigma_p = \sqrt{\frac{PQ}{N}}$$

in which P equals the probability of success, Q equals 100 - P and N equals the size of the sample. For the overall results, (e.g. Table 1) the standard error comes out at around 2.5%, and this probably is a reasonable figure at which to aim. However, as soon as one breaks down into the various groupings, such as the indexer or the indexing time, there are a number of complications. The figures assume pure binomial variability; if this is not to be accepted as reasonable, it is doubtful if the figure for the standard error can be significantly reduced without a large increase in the test programme. However, with all the tables given in this section, what is believed to be the correct standard error is shown for the actual situation in which the tables have been compiled.

A more detailed statistical analysis of the validity of the test results was made by Mr. J. T. Harris, Lecturer in Mathematical Economics at the College of Aeronautics and is included as Appendix 3A.

	<u>Total Searches</u>	<u>Success</u>	<u>Failure</u>	<u>% Success</u>
U.D.C.	1157	875	282	75.6
ALPHA	1154	941	213	81.5
FACET	1047	773	274	73.8
UNITERM	1146	940	206	82.0

TABLE 3.1

COMBINED RESULTS OF ALL SEARCHES
BY PROJECT STAFF (s.e. 2.6% approx.)

U.D.C.	82% (179)	80% (173)	74% (180)	77% (174)	72% (176)
ALPHA	89% (179)	85% (173)	77% (180)	85% (174)	73% (176)
FACET	76% (179)	79% (173)	71% (180)	71% (174)	71% (176)
UNITERM	89% (179)	85% (173)	83% (180)	88% (173)	75% (176)

TABLE 3.2

RETRIEVAL FOR VARIOUS INDEXING TIMES FOR SEARCHES
BY PROJECT STAFF IN FINAL SUB-PROGRAMME
(DOCUMENTS 12001 - 18000) (s.e. 5% - 6%)

(Figures in brackets indicate number of searches on which
percentage figure is based)

	<u>Hadlow</u>	<u>Warburton</u>	<u>Sharp</u>
U. D. C.	73.8	81.0	76.9
ALPHA	79.6	85.4	82.7
FACET	71.4	77.9	71.1
UNITERM	84.0	83.0	86.0

TABLE 3.3

PERCENTAGE RETRIEVAL ACCORDING TO INDEXER FOR SEARCHES
BY PROJECT STAFF IN FINAL SUB-PROGRAMME (s.e. 4% approx.)

	<u>Aerodynamics</u>	<u>General</u>
U. D. C.	72.7	78.6
ALPHA	78.9	84.2
FACET	70.3	77.3
UNITERM	81.6	82.2

TABLE 3.4

PERCENTAGE RETRIEVAL ACCORDING TO SUBJECT FOR SEARCHES
BY PROJECT STAFF IN FINAL SUB-PROGRAMME (s.e. 3.5% approx.)

	<u>1 - 6000</u>	<u>6001 - 12000</u>	<u>12001 - 18000</u>
U.D.C.	63.9	74.2	77.2
ALPHA	74.7	80.3	82.5
FACET	-	74.5	73.7
UNITERM	69.9	76.6	86.4

TABLE 3.5

PERCENTAGE RETRIEVAL ACCORDING TO INDEXING SUB-PROGRAMME
FOR SEARCHES BY COLLEGE STAFF (s.e. 3% - 8%)

	<u>1st Round</u>	<u>2nd Round</u>	<u>3rd Round</u>
U.D.C.	78.2	74.2	76.1
ALPHA	81.7	78.4	84.5
FACET	72.7	69.3	79.3
UNITERM	77.6	80.9	87.3

TABLE 3.6

PERCENTAGE RETRIEVAL FOR SEARCHES BY PROJECT STAFF
IN THE THREE ROUNDS OF TESTING (s.e. 5% approx.)

	<u>Warburton</u>	<u>Hadlow</u>	<u>Cleverdon</u>
U.D.C.	77.2	75.5	76.3
ALPHA	80.1	83.8	76.9
FACET	73.9	71.4	70.1
UNITERM	83.2	78.5	82.4

TABLE 3.7

PERCENTAGE RETRIEVAL BY SEARCHING FOR PROJECT STAFF
IN FIRST TWO ROUNDS OF TESTING (s.e. 4% - 6%)

	<u>Success</u>	<u>Failure</u>	<u>% Success</u>
U.D.C.	520	132	79.6
ALPHA	501	183	73.3
FACET	335	167	66.7
UNITERM	297	619	81.1

TABLE 3.8

RESULTS OF ALL SEARCHES BY TECHNICAL STAFF (s.e. 3.2% - 4.1%)

	16 mins	12 mins	8 mins	4 mins	2 mins
U.D.C.	84	86	78	78	76
ALPHA	81	78	74	76	63
FACET	62	73	66	55	70
UNITERM	85	83	73	87	85

TABLE 3.9

PERCENTAGE RETRIEVAL FOR VARIOUS INDEXING TIMES FOR SEARCHES
BY TECHNICAL STAFF IN FINAL SUB-PROGRAMME (s.e. 6.2% - 11.6%)

	<u>Hadlow</u>	<u>Warburton</u>	<u>Sharp</u>
U.D.C.	81	77	83
ALPHA	76	70	78
FACET	63	69	64
UNITERM	78	85	82

TABLE 3.10

PERCENTAGE RETRIEVAL FOR INDEXERS FOR SEARCHES BY
TECHNICAL STAFF IN FINAL SUB-PROGRAMME (s.e. 5.1% - 9%)

	<u>Aeronautical</u>	<u>General</u>
U.D.C.	77	82
ALPHA	72	74
FACET	62	72
UNITERM	81	81

TABLE 3.11

PERCENTAGE RETRIEVAL ACCORDING TO SUBJECT FOR ALL
SEARCHES BY TECHNICAL STAFF (s.e. 4.3% - 5.4%)