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MEMORANDUM FOR THE FILE

April 27, 1967

→ Re: Information Retrieval

On April 25, 1967, I went to Philadelphia with Project Officer O'Shea to discuss the costs of the computer project with personnel at 3i. We talked with Mr. Brodsky and Dr. Giller.

My conclusions at the end of the meeting are set forth at the end of this memorandum.

Mr. Brodsky will compile a copy of the Covington & Burling Contract with 3i based upon the proposal as modified by the letters referred to in Mr. Temko's letter of January 31, 1967.

During the morning, O'Shea and I discussed and computed the costs of the system. We analysed the monthly charges of 3i as listed in Exhibit A. In addition, we computed the other costs of the system as set forth below. Mr. Brodsky was ill and was not able to be with us. He verified these figures in the afternoon.

The Costs of the project appear to be as follows:

1. Fixed or One-Time Costs of Commencing the System:

(These are very rough since we did not consider them in detail).

a.	Developmental Costs per Contract	- \$167,000
b.	[Paid in March 1967	- \$ 18,000]
c.	Paid in April 1967	- \$ 32,000
d.	Extra developmental Costs for two months @ \$4,800 per month	- \$ 9,600
e.	Loading cost for 5,000 documents	- \$ 5,000
f.	Loading cost for 800 documents in April 1967 per Letter	- \$ 800
g.	Cost for setting up Computer	- \$ 2,000
h.	(Per company) Reader Printers	- \$ 1,100 (approx.)
i.	(Per company, optional) sorting trays	- \$ 6,800 (approx.)

2. On going monthly costs:

a.	Basic 3i charges per Exhibit A	- \$34,439
b.	Systems Science Computer Charges (See Note Below).	- \$ 3,500
c.	Loading charges for 1000 documents-	<u>\$ 1,000</u>
	total per month	\$38,939
	(not including sundry communication costs)	

Note on Computer Charges: Systems Science monthly charges are \$3,500 for 350 searches plus \$1.75 per search for every additional search over 3,500. At the November 29, 1966 and the January 20, 1967 meetings, what constitutes a search was not defined. It is still an open question at this time. The estimated cost per search was based upon 700 minutes computer time.

As may be seen on Exhibit A, the 3i charges found in the proposal of December 8, together with the letter of December 15, were estimated at \$12,800 per month. These figures which

were offered to Covington & Burling were the same as those which had been offered to the Tobacco Institute in October.

On January 20, at a meeting of certain General Counsel with 3i representatives and the Ad Hoc Committee, 3i at industry request presented eight alternative packages and attached price tags to these packages. These were:

1. Abstracting, Annotating & Indexing - 400 tobacco reference documents, 2 columns, in original 3i proposal. \$12,800
2. Abstracting, Annotating & Indexing - 400 tobacco reference documents, 4 columns \$15,200
3. Abstracting, Annotating & Indexing - 400 tobacco reference documents and 600 non-tobacco reference documents - 2 columns \$27,800
4. Abstracting, Annotating & Indexing - 400 tobacco reference and 600 non-tobacco reference documents, 4 columns \$30,400
5. Abstracting, Annotating & Indexing, 400 tobacco reference and 300 non-tobacco reference documents, 4 columns \$22,800
6. Annotating & Indexing, not abstracting, 600 non-tobacco reference and abstracting, annotating and indexing 400 tobacco reference, 4 columns \$22,800
7. Abstracting, Annotating and Indexing - 400 tobacco reference documents and providing title and author for 600 non-tobacco reference documents, 4 columns \$15,600
8. Annotating and Indexing, not abstracting, 400 tobacco reference and 600 non-tobacco reference documents, 4 columns \$15,200

Then, on April 12, 1967, Mr. Brodsky informed John Denniston of the actual costs involved.

Mr. Brodsky insisted that part of the difference between the prices in the proposal, on January 20, 1967 (or in the contract) and on April 12, 1967 was due to the fact that 3i considered that "time and materials" would be considered in pricing. See the mention of this at the bottom of page 1 of the 3i letter of December 15, 1966. It appears that 3i considered this "time and materials" system, applicable to both the "developmental phase," and to the on-going monthly phase. The monthly costs stated at page 5 of the December 15 letter are stated as "approximate" and billing (see page 4) was to be "rendered monthly."

In the above figures, 3i has not included various alternatives upon which 3i will be reporting in the near future. Included in these are questions regarding (1) "author comment," (2) "blood chemistry," etc. After the meeting with 3i, I concluded that, for the purposes of the April 27 meeting, the present scope of coverage, with the exception of the two items listed above, would yield approximately 1000 articles per month. 3i would not make such a prediction, but the other changes seem to be fairly minor by comparison with the two items listed above.

These two items, however, cause major changes in the estimates. 3i said that they would attempt to do so by April 27 with regard to "author comment." Under "author comment," there appear to be three possibilities: (1) listing in column 4

comment only when it is truly commentary; (2) listing in a new column 5 all references in the bibliographies of articles included in the system; (3) listing, not as a descriptor but as a separate listing, all references in the bibliographies of articles included in the system. Apparently, under the first possibility, the cost would seem to be about \$3.60 per article or about \$3,600 per month for 1000 articles per month. This is the experience of one indexer over a two week period.

"Blood chemistry" would require a sample scan. Mr. Brodsky's estimate agrees with Dr. Colby's -- "thousands" per month. However, for the April 27 meeting, Mr. Brodsky agreed to have one of his people review Index Medicus for two months to obtain a more accurate estimate.

Attached hereto is Exhibit B which is the Scope of Coverage, together with my notes taken at 3i on April 25, 1967. Note that the total articles for the month ending Friday, April 21, 1967, was 710, under the scope of coverage that had been in existence prior to the meeting of April 19, 1967. 710 articles is a one month level. In December 1966, there were 1,010 articles, and in January, 1967, there were 1,514 articles. Last month, the journals received were down 20 to 25%. The normal level of journals scanned each month is 3800 but this fluctuates plus or minus 500 based upon receipt of weekly, monthly, quarterly or annual journals. This results from scanning 3800 journal titles. The breakdown of these 710 articles is as follows:

Section I - Tobacco related - 150. This figure has run as high as 400, but averages 300 to 350. The 400 tobacco-related articles listed in the original proposal was an average of 300 current articles plus 100 retrospective articles. Since the time of the original proposal, there has been some change in the definition of "tobacco-related articles."

Section II - No Tobacco Reference.

A. Cancer: (Total-265)

- 1). Etiology and epidemiology -120
- 2). Carcinogenesis: (subtotal-95)
  - a) Radiation - 15
  - b) Viruses - 20
  - c) Chemical carcinogenesis - 60
- 3). Cancer Histopathology - 20
- 4). Cancer Diagnosis - 15
- 5). Cancer Immunology - 15

B. Respiratory System (total - 200)

- 1). Etiology and Epidemiology - 75
- 2). Occupational Respiratory Disease - 100
- 3). Physiology and Function of the Lung - 25

C. Cardiovascular Disease (total - 65)

- 1). Etiology and Epidemiology - 50 (normally, this should probably be 100, according to 3i experience with Cardiovascular Compendium).
- 2). Blood Cholesterol - 15

D. Miscellaneous (total - 40)

- 1). Etiology and Epidemiology - 15
- 2). Occupational Toxicology - 25
- 3). Other aspects - 0

Exhibit C is the memorandum of March 22, 1967 re alternatives in the Scope of Coverage. 3i says this is not accurate and will bring it up to date.

Exhibit D is 3i's weekly report to Simon O'Shea on the status of the project.

Conclusions: There appear to be three major issues relating to the contract with 3i. These are:

1. Costs of developing the system.
2. On-going cost for an average of 1000 articles per month to be added to the system.
3. The scope of coverage of the system.

In talking with 3i, I came to the conclusion that these issues must be kept separate and distinct. If they are confused, all hope of analysis of the issues is lost.

Furthermore, I concluded that these issues must be considered in reverse order. Before looking at exact prices, one should decide the purposes of the system, the goals of the industry, and the scope of coverage. Then, one should decide how much the goals are worth and how much the industry is willing to pay. Only after that should one turn to the precise costs involved.

FKD

OUTLINE OF PROJECT COSTS

Type of Cost	Rate per hour	Proposal		Jan. 20	April 12	
		Hours	Cost		Hours	Cost
<u>Class 27</u> Administration	\$22.50	80	\$1,800		80	\$1,800
<u>Class 37</u> Abstracting & Indexing Editing Scanning	\$14.50	400 (new)	5,800 (new)		1,000 250 220	14,500 3,625 3,190
(subtotal)					1,470	21,315
<u>Class 47</u> Proofreading English Editing Bibliographic Preparation Index control	\$10.50	320 (included above)	3,360 (new) (new)		245 (delete) 250 125	2,572. (delete) 2,625 1,312
(subtotal)					620	6,510.
<u>Class 43</u> Microfilm	\$ 5.30		848			(delete)
<u>Materials &amp; Travel</u> (includes \$500 for rental of equipment)	-----		1,000			(delete)
Items Not In						

NOTES TO EXHIBIT A

Class 37

1. Abstracting and indexing, at first thought to be separable functions, are now considered indistinguishable.

2. Under the original proposal, scanning was not to be changed. 3i thought that the scanning for the tobacco industry and for other projects (such as Cardiovascular Compendium) could be done at the same time. However, 3i has learned that our "Scope of Coverage" requires that they have a separate scanning for us.

3. Editing was added as the result of the comments of members of the Literature Committee. When the Authority List was distributed, many terms were described in several ways. The Committee comment that there appeared to be many synonyms led 3i to have editors combine the references under synonyms and eliminate the duplication of terminology.

Class 47

1. Because of the increase in the number of descriptors as the result of indexing in more depth than 3i had originally contemplated, they thought that they had better add bibliographic preparation and index control. See also Class 37, No. 3.

Class 43 and Materials

1. In the original proposal, based on 400 documents per month, the cost of the time of the microfilm operator was \$848 and microfilm materials was \$500. This aggregated \$1,348 for microfilming. An additional \$500 was for travel, etc.

2. The microfilm expense of \$2,142 includes the cost of the microfilm operator's time and the microfilm materials. The increase from \$1,348 results in part from an increase from 400 to 1,000 in the number of documents. To save money, 3i has sent the microfilming to an outside concern.

3. The aperture cards cost more than they did before because of the increase from 400 to 1,000 in the number of documents per month. In addition, because of the "in depth indexing" required by the industry, the documents are running 1.9 aperture cards per document instead of 1.2 cards per document, as anticipated. 3i had anticipated approximately a dozen sets of aperture cards to be printed, but, apparently, the industry has ordered more sets.