Extel Financial: An International Stock Database for Academic Libraries?

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Abstract
This study examines the usefulness of Extel Financial, an international stock database, to academic institutions such as The Hong Kong University of Science and Technology (HKUST). A thorough survey was carried out with the HKUST's faculty, second and third Year students in the Department of Finance to determine the usefulness of the database to the faculty's research and to the students' term projects. Comments on the key features of the two databases in Extel Financial, Company Research and Equity Research, were gathered from the surveys. The study reveals the features of Extel which are useful to the faculty and students. It shows Extel's strengths and weaknesses and identifies areas of possible improvement for the database. The paper also discusses the role of library instruction when introducing a complex database such as Extel in a library.

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1. INTRODUCTION

1.1 What is Extel Financial
Extel Financial is a CD-ROM database produced in U.K. and it has been available on the market since 1991. It is one of the most comprehensive sources for international stock data. It includes two databases: Company Research and Equity Research. Company Research consists of about 11,000 abridged annual reports for listed companies from around the world. (See Appendix 1 for a list of selected countries covered by Extel) Equity Research consists of daily closing price for the same companies in Company Research. In addition, Equity Research contains other types of financial data including stock indices, mutual funds, economic indicators, and exchange rates for 55 currencies.

1.2 Who uses Extel
Extel is most popular in U.K. and there are about 400 U.K. organizations using it. Many of these organizations are financial and investment companies and roughly 30-40 of these organizations are academic institutions. Extel is also used widely in some places outside U.K. For example, in Hong Kong, about 220 organizations use Extel and five of these organizations are academic institutions.

1.3 Usage Statistics of Extel
The HKUST Library started to make Extel available on its campus network in February 1996. From the beginning, Extel has been very popular among our users, especially among the faculty and students of the Department of Finance. During the first year of the introduction of Extel (from February 1996 to January 1997), Extel was ranked second in terms of the total amount of time used by our users among 6 of our most popular databases. (Appendix 2) Extel came fourth in terms of the total number of logins. (Appendix 3) The 6 databases used for comparison were: BPO (Business Periodicals Ondisc), GPO (General Periodicals Ondisc), SSO (Social Sciences Ondisc), SCI (Science Citation Index), Medline Express, and Extel.

1.4 Purposes of the Study
- Determine the usefulness of the database to our faculty's research and students' projects/assignments in the Department of Finance.

- Determine the useful features of Extel to the Finance faculty members and students. This understanding will help librarians to decide what they should teach to the users about the database.
- Find out which Finance faculty members will be using Extel for their courses. This will be helpful in planning Extel classes for our students.
- Identify areas (contents and functions) which Extel should improve on. The comments will help developers of Extel or other similar databases in making their product more customer oriented.
- Obtain an overall picture of how Extel is used at the HKUST.

2. LITERATURE REVIEW

A comprehensive search was conducted in LISA, Library Literature, ABI/INFORM, Lexis-Nexis, ERIC, and the World Wide Web in May 1996. Very few articles have been written in depth about the database and no articles was found regarding how the database was used in the academic environment.

Two relevant articles regarding Extel were found: *EXTEL: Flagship Database for Foreign Business* (O'Leary, 1992) and *International Stock Prices: Getting Them in the U.S.* (Graham, 1992). Both articles commented that Extel was a major supplier of international stock pricing data. O'Leary briefly discussed Extel's companies coverage, clienteles of Extel, and other related databases for international corporations such as KOMPASS and Dun & Bradstreet. It also pointed out that Extel users might need to supplement the database with other foreign oriented news and analysis databases such as ICC International Business Research and Reuters.

Graham discussed in detail on the flow of international stock data among the stock exchanges and various stock information providers such as Reuters, Dow Jones, Dialog, Datastream, and Extel. The article pointed out that these stock data providers were targeted at quite different customers. Dialog and Dow Jones seemed to focus on infrequent or low-volume users, while Datastream, IDD, Interactive Data, and Extel aimed at intense end-users such as financial analysts. Reuters appeared to fall between the two groups. The author also reminded readers on things that need to be considered when choosing an international stock database.

3. METHODOLOGY

Two questionnaires were designed to find out the usefulness of Extel to the faculty's research and students' projects. One questionnaire was for the Finance faculty (Appendix 4); another one for the students (Appendix 5). Several colleagues and users tested the draft questionnaires and revisions were made according to their comments.

The questionnaire for the faculty was first sent to all Finance faculty as an email in July 1996 and re-sent in paper form in August 1996. Seventeen (95%) Finance faculty members have returned the questionnaire by September 1996. Nine faculty members have never used Extel before and so they were excluded from the statistical analysis for the study.

The questionnaire for students were conducted in four Finance classes in November 1996. Two classes were taking a second year course *Investment Analysis and Portfolio Management* and another two were taking a third year course *Advanced Financial Management*. These students have received a one and a half hour Library class on using Extel for their projects. With the agreement from the instructors, the surveys for the students were conducted at the end of one of their classes. The survey took five to ten minutes and almost all the students in the four classes filled out the questionnaires. Altogether, 111 students in the second year course responded to the questionnaire and 77 third year course students also replied.

The faculty members and the students together provided 196 valid samples for analysis. The data were entered into Microsoft Excel and cross tabulation was carried out with SPSS.

4. FINDINGS

4.1 Number of Times Used

The first question asked how many times has the respondent used Extel.

Number of Times Used					
	0-3 times	**4-6 times**	**7-10 times**	**> 10 times**	**Row Total**
Faculty	3 (37.5%)		1 (12.5%)	4 (50%)	8 (4.1%)
Year 2	85 (76.6%)	18 (16.2%)	3 (2.7%)	5 (4.5%)	111 (56.6%)
Year 3	7 (9.1%)	4 (5.2%)	6 (7.8%)	60 (77.9%)	77 (39.3%)
Column Total	95 (48.5%)	22 (11.2%)	10 (5.1%)	69 (35.2%)	196 (100%)

When answering this question, the faculty were given a choice "0 time" and if this was their choice, they were asked not to answer the rest of the questionnaire. However, this choice was not available for the students because all these students have taken 1.5 hours Library class on using Extel. Most of them could comment on Extel even if they have not got a chance using it. Those who could not comment have been treated as invalid samples and have excluded from the study.

Overall, 48.5% of the respondents have used Extel 0-3 times, 11.2% for 4-6 times, 5.1% for 7-10 times, and 35.2% for more than 10 times. Year 3 students were the most experienced Extel users among the three groups with 77.9% have used Extel more than 10 times. Many of Year 2 students (76.6%) were new Extel users who have used the database 0-3 times only. Five faculty have used Extel quite extensively (7 times or more).

4.2 Usefulness for Faculty's Research

Among the 8 faculty, 4 found Extel useful for their research, 3 found it fair, and 1 said it was not useful. For the question "In what ways do you find Extel useful for your research?", positive comments include:

- It is easy to check information, save data, and create reports.
- It is useful in searching for new ideas and topics.
- The coverage is broad and the information is quite up-to-date.
- It is useful in looking up recent trends in specific companies.

Yet, one faculty member commented that "The data coverage is sometimes too short and the new data is not updated consistently for some countries. This is very crucial for portfolio analysis because you need to have data for all stocks you picked for your period of analysis."

4.3 Usefulness for Students' Projects

Usefulness for Students' Projects					
	Very Useful	**Useful**	**Fair**	**Not Useful**	**Row Total**
Faculty	5 (71.4%)	2 (28.6%)			7 (3.6%)
Year 2	12 (10.9%)	64 (58.2%)	31 (28.2%)	3 (2.7%)	110 (56.7%)
Year 3	19 (24.7%)	47 (61.0%)	11 (14.3%)		77 (39.3%)
Column Total	36 (18.6%)	113 (58.2%)	42 (21.6%)	3 (1.5%)	194 (100%)

Although only half of the faculty found Extel useful for their only research, all of the seven faculty members who answered this question found it very useful or useful for their students' projects. This thinking of faculty coincides with students' own experience. The majority of Year 2 (69.1%) and Year 3 (85.7%) students found Extel useful or very useful for their projects.

Together, 76.8% found Extel very useful or useful for students' projects, 21.6% found it fair. Only 1.5% said it was not useful. This 1.5% respondents were all Year 2 students. It was mentioned in 4.1 that the majority of Year 2 students were new Extel users. This 1.5% users were probably the ones who have not used Extel enough to realize its usefulness to their projects.

4.3.1 Usefulness for Students' Projects: Faculty's Perception

In answering the question "Extel's Usefulness for Students' Projects", the faculty's written comments include:

- A very good starting point for any meaningful analysis.
- Easy to access financial data all over the world.
- Provides most data students need for their projects.
- Useful for preparing reports on specific companies.

4.3.2 Usefulness for Students' Projects: Students' Perception

The major positive comments from students were:

- Easy to get the basic company information, stock prices, and indices. It saves lots of time compared to digging these information out from printed sources.
- Plot all sorts of graphs such as price line graphs for stocks and graphs for exchange rates.
- Compare a stock with its P/E ratio or other indicators.
- Find out the lines of business of companies and their competitors.
- Compare the performance of a company with its competitors.
- Provide good analytical tools for evaluating companies performance.
- Compile financial information such as the balance sheet and the income statement.
- Update news about companies.
- Shows trend of indices such as the Hang Seng Index.

4.4 Company Research

4.4.1 Companies Coverage

Companies Coverage							
	Very Good	**Good**	**Fair**	**Poor**	**Very Poor**	**Don't Know**	**Total**
Faculty		5 (62.5%)	2 (25.0%)			1 (12.5%)	8 (4.1%)
Year 2	6 (5.4%)	57 (51.4%)	31 (27.9%)	3 (2.7%)	3 (2.7%)	11 (9.9%)	111 (56.6%)
Year 3	3 (3.9%)	44 (57.1%)	29 (37.7%)			1 (1.3%)	77 (39.3%)
Total	9 (4.6%)	106 (54.1%)	62 (31.6%)	3 (1.5%)	3 (1.5%)	13 (6.6%)	196 (100%)

Comments from the faculty, Year 2, and Year 3 students are very similar to each other in regards of the companies coverage. 62.5% faculty, 51.4% Year 2, and 57.1% Year 3 felt the companies coverage was good. 25% faculty, 27.9% Year 2, and 37.7% Year 3 found it fair. Overall, 58.7% of the respondents found the companies coverage to be good or very good, 31.6% found it fair, 3% found it poor or very poor, and 6.6% said "don't know".

4.4.2 Company News Coverage

Company News Coverage							
	Very good	**Good**	**Fair**	**Poor**	**Very Poor**	**Don't Know**	**Total**
Faculty		2 (25.0%)	3 (37.5%)	1 (12.5%)		2 (25.0%)	8 (4.1%)
Year 2		34 (30.6%)	51 (45.9%)	8 (7.2%)	3 (2.7%)	15 (13.5%)	111 (56.6%)
Year 3	2 (2.6%)	17 (22.1%)	42 (54.5%)	15 (19.5%)	1 (1.3%)		77 (39.3%)
Total	2 (1.0%)	53 (27.0%)	96 (49.0%)	24 (12.2%)	4 (2.0%)	17 (8.7%)	196 (100%)

The majority of the people in each of the three groups found company news coverage to be fair, with 37.5% faculty, 45.9% Year 2 students, and 54.5% Year 3 students. Among all the respondents, about half (49%) found Company News Coverage to be fair, only 28% found it good or very good, and 14.2% even said it was poor or very poor. 8.7% responded "don't know".

4.4.3 Information of Financial Statements

Financial Statement Information							
	Very Good	**Good**	**Fair**	**Poor**	**Very Poor**	**Don't Know**	**Total**
Faculty		3 (37.5%)	2 (25.0%)			3 (37.5%)	8 (4.1%)
Year 2		43 (38.7%)	43 (38.7%)	7 (6.3%)	1 (0.9%)	17 (15.3%)	111 (56.6%)
Year 3	11 (14.3%)	35 (45.5%)	22 (28.6%)	8 (10.4%)	1 (1.3%)		77 (39.3%)
Total	11 (5.6%)	81 (41.3%)	67 (34.2%)	15 (7.7%)	2 (1.0%)	20 (10.2%)	196 (100%)

Overall 46.9% of all the respondents found the financial statement information to be good or very good, 34.2% found it fair, 8.7% found it poor or very poor, and 10.2% replied "don't know". 14.3% Year 3 students said the financial statement information was very good while no one from the other two groups said it was very good. None of the Year 3 students answered "don't know" while 37.5% faculty and 15.3% Year 2 students responded "don't know". It seems that newer users of Extel, like some faculty and many of the Year 2 students, were not familiar with the financial statement information in Extel and hence they could not make good use of it.

4.4.4 Search Features in Extel Cards

Search Features in Extel Cards							
	Very Good	**Good**	**Fair**	**Poor**	**Very Poor**	**Don't Know**	**Total**
Faculty		4 (50.0%)	2 (25.0%)			2 (25.0%)	8 (4.1%)
Year 2		42 (37.8%)	31 (27.9%)	5 (4.5%)	1 (0.9%)	32 (28.8%)	111 (56.6%)
Year 3	5 (6.5%)	49 (63.6%)	22 (28.6%)	8 (10.4%)	1 (1.3%)		77 (39.3%)
Total	5 (2.6%)	95 (48.5%)	55 (28.1%)	6 (3.1%)	1 (0.5%)	34 (17.3%)	196 (100%)

Extel Cards are summarized annual reports in Company Research. These Extel Cards can be searched with specified criteria. For example, one can search for all the real estate development companies in Hong Kong.

A little over half (51.1%) of all respondents found the search features in Extel Cards to be good or very good, 28.1% found it fair, 3.6% found it poor or very poor, and 17.3% said "don't know". Although quite a few searching functions are available for searching the Extel Cards, they are unknown to many new users as 28.8% of Year 2 students didn't know about them. Only 37.8% Year 2 students said the search features in Extel Cards were good, while 70.1% of the more experienced Year 3 students commented that it was good or very good.

4.4.5 Search Features in News Cards

Search Features in News Cards							
	Very Good	**Good**	**Fair**	**Poor**	**Very Poor**	**Don't Know**	**Total**
Faculty		3 (37.5%)	2 (25.0%)			3 (37.5%)	8 (4.1%)
Year 2		28 (25.2%)	40 (36.0%)	4 (3.6%)	1 (0.9%)	38 (34.2%)	111 (56.6%)
Year 3	4 (5.2%)	36 (46.8%)	34 (44.2%)	2 (2.6%)		1 (1.3%)	77 (39.3%)
Total	4 (2.0%)	67 (34.2%)	76 (38.8%)	6 (3.1%)	1 (0.5%)	42 (21.4%)	196 (100%)

News Cards are news events of companies kept in Company Research. News events have a lot of effects on the movement of the stock prices and Extel summarizes and categorizes these news events into general news, dividend, merger & acquisitions, etc.

Together, 36.2% of all respondents found the search features in News Cards to be good or very good, 38.8% found it fair, 4.6% found it poor or very poor, and 21.4% said "don't know". Similar to the search features in Extel Cards, News Cards' search functions are rarely known to new users. Since the majority of Year 2 students were new users, no wonder why 34.2% of them could not comment on the search features in News Cards. It is quite a contrast to see that only 1.3% of the more experienced Year 3 students "don't

know" about it. For the same reason, only 25.2% of the Year 2 students found the search features in News Cards to be good, but twice as many (52%) of the Year 3 students found it good or very good.

4.4.6 How User Friendly is Company Research?

How User Friendly is Company Research?							
	Very Good	**Good**	**Fair**	**Poor**	**Very Poor**	**Don't Know**	**Total**
Faculty		2 (25.0%)	4 (50.0%)		1 (12.5%)	1 (12.5%)	8 (4.1%)
Year 2	5 (4.5%)	33 (29.7%)	46 (41.4%)	12 (10.8%)	4 (3.6%)	11 (9.9%)	111 (56.6%)
Year 3	4 (5.2%)	45 (58.4%)	19 (24.7%)	7 (9.1%)	1 (1.3%)	1 (1.3%)	77 (39.3%)
Total	9 (4.6%)	80 (40.8%)	69 (35.2%)	19 (9.7%)	6 (3.1%)	13 (6.6%)	196 (100%)

Overall, 45.4% of all respondents commented that Company Research was good or very good in terms of its user-friendliness, 35.2% found it fair, 12.8% found it poor or very poor, and 6.6% said they didn't know. Again, a big discrepancy was found between Year 2 and Year 3 students in their comments on the level of user-friendliness of Company Research. Only 34.3% Year 2 students said that the user-friendliness of Company Research was good or very good, but almost twice as many (63.6%) of the Year 3 students said it was good or very good. 41.4% of Year 2 students found the user-friendliness of Company Research to be fair, while only 24.7% of Year 3 students found it the same.

4.5 Equity Research

4.5.1 Stocks Coverage

Stocks Coverage							
	Very Good	**Good**	**Fair**	**Poor**	**Very Poor**	**Don't Know**	**Total**
Faculty	2 (25.0%)	4 (50.0%)	2 (25.0%)				8 (4.1%)
Year 2	5 (4.5%)	50 (45.5%)	44 (40.0%)		1 (0.9%)	10 (9.1%)	110 (56.7%)
Year 3	2 (2.6%)	44 (57.9%)	25 (32.9%)	1 (1.3%)		4 (5.3%)	77 (39.3%)
Total	9 (4.6%)	98 (50.5%)	71 (36.6%)	1 (0.5%)	1 (0.5%)	14 (7.2%)	196 (100%)

The majority of each of the three groups found the stocks coverage to be good with 50% from the faculty, 45.5% from Year 2, and 57.9% from Year 3. Overall, 55.1% of all respondents found the stocks coverage good or very good, 36.6% found it fair, 1% found it poor or very poor, and 7.2% said "Don't Know".

The respondents' comments on stocks coverage were very similar to their comments on companies coverage in 4.4.1 with 58.7% found companies coverage good or very good, and 31.6% found it fair. Since both company information and stock data are available for most companies in Extel, the similarity in respondents' comments on companies coverage and stocks coverage showed their consistency in answering the questionnaire.

4.5.2 Length of Stock Price Coverage

Length of Stock Price Coverage							
	Very Good	**Good**	**Fair**	**Poor**	**Very Poor**	**Don't Know**	**Total**
Faculty	1 (12.5%)	3 (37.5%)	1 (12.5%)		1 (12.5%)	2 (25.0%)	8 (4.1%)
Year 2	4 (3.6%)	30 (27.3%)	54 (49.1%)	8 (7.3%)	2 (1.8%)	12 (10.9%)	110 (56.4%)
Year 3	5 (6.5%)	33 (42.9%)	28 (36.4%)	5 (6.5%)	3 (3.9%)	3 (3.9%)	77 (39.5%)
Total	10 (5.1%)	66 (33.8%)	83 (42.6%)	13 (6.7%)	6 (3.1%)	17 (8.7%)	195 (100%)

Together, 38.9% of all the respondents found the length of stock price coverage to be good or very good, 42.6% found it fair, 9.8% found it poor or very poor, 8.7% said "Don't Know". Looking at the three groups separately yields quite different results. The majority of the faculty (50%) and Year 3 students (49.4%) found the length of stock price coverage to be good or very good. It is the Year 2 students who skewed down the overall opinion of all respondents from "good" to "fair" because the majority of them (49.1%) commented "fair" on the length of stock price coverage.

4.5.3 Stock Market Indices Coverage

Stock Market Indices Coverage							
	Very Good	**Good**	**Fair**	**Poor**	**Very Poor**	**Don't Know**	**Total**
Faculty	1 (12.5%)	4 (50.0%)	1 (12.5%)			2 (25.0%)	8 (4.1%)
Year 2	3 (2.7%)	41 (37.3%)	46 (41.8%)	6 (5.5%)	1 (0.9%)	13 (11.8%)	110 (56.4%)
Year 3	5 (6.5%)	43 (55.8%)	20 (26.0%)	5 (6.5%)	1 (1.3%)	3 (3.9%)	77 (39.5%)
Total	9 (4.6%)	88 (45.1%)	67 (34.4%)	11 (5.6%)	2 (1.0%)	18 (9.2%)	195 (100%)

Overall, 49.7% of all the respondents found the stocks market indices coverage good or very good, 34.4% found it fair, 6.6% found it poor or very poor, and 9.2% answered "Don't Know".

4.5.4 Indicators' Features

Indicators' Features							
	Very Good	**Good**	**Fair**	**Poor**	**Very Poor**	**Don't Know**	**Total**
Faculty		3 (37.5%)	2 (25.0%)			3 (37.5%)	8 (4.1%)
Year 2	2 (1.8%)	37 (33.6%)	49 (44.5%)	4 (3.6%)		18 (16.4%)	110 (56.7%)
Year 3	2 (2.6%)	33 (43.4%)	34 (44.7%)	4 (5.3%)		3 (3.9%)	76 (39.2%)
Total	4 (2.1%)	73 (37.6%)	85 (43.8%)	8 (4.1%)		24 (12.4%)	194 (100%)

Equity Research's indicators consist of a wide range of useful functions such as showing the P/E ratio, unadjusted prices, and the trading volume. Yet, the majority of the respondents (43.8%) rated these indicators' features as fair only and as many as 12.4% of the respondents didn't know about it.

4.5.5 Methods for Comparing Stocks and/or Indices

Methods for Comparing Stocks and/or Indices							
	Very Good	**Good**	**Fair**	**Poor**	**Very Poor**	**Don't Know**	**Total**
Faculty		2 (28.6%)	1 (14.3%)		1 (14.3%)	3 (42.9%)	7 (3.6%)
Year 2	2 (1.8%)	35 (31.8%)	41 (37.3%)	7 (6.4%)	2 (1.8%)	23 (20.9%)	110 (56.7%)
Year 3	4 (5.2%)	46 (59.7%)	16 (20.8%)	6 (7.8%)		5 (6.5%)	77 (39.7%)
Total	6 (3.1%)	83 (42.8%)	58 (29.9%)	13 (6.7%)	3 (1.5%)	31 (16.0%)	194 (100%)

Many methods are available in Extel for comparing stocks and/or indices. Some examples are Rebased 0, Relative 100, etc. The majority of the respondents (45.9%) found the methods for comparing stocks and/or indices to be good or very good. Among the heavy Extel users (the Year 3 students), an even higher percentages (64.9%) found it to be good or very good. Yet, among the "light" Extel users (the Year 2 students), only 33.6% found it good or very good. 20.9% Year 2 students even answered "don't know". This is another group of features in Extel that are waiting for new users to explore.

4.5.6 Ability in Manipulating Graphs

Users can plot the price line graphs with different time periods by using the Zoom In and Zoom Out functions. Overall, 47.7% of the respondents found this feature to be good or very good, 39% found it fair, 3.6% said poor or very poor, and 9.7% answered "don't know".

4.5.7 Exchange Rate Features

Exchange Rate Features							
	Very Good	**Good**	**Fair**	**Poor**	**Very Poor**	**Don't Know**	**Total**
Faculty	1 (14.3%)	3 (42.9%)	1 (14.3%)			2 (28.6%)	7 (3.6%)
Year 2		30 (27.5%)	44 (40.4%)	3 (2.8%)		32 (29.4%)	109 (56.5%)
Year 3	5 (6.5%)	38 (49.4%)	24 (31.2%)	1 (1.3%)		9 (11.7%)	77 (39.9%)
Total	6 (3.1%)	71 (36.8%)	69 (35.8%)	4 (2.1%)		43 (22.3%)	193 (100%)

Knowing the exchange rate features is important for investing in international stocks as it is necessary to take the exchange rate into consideration to estimate and determine one's return on investment. Yet, 22.3% of the respondents didn't know the exchange rate features. Among the Year 2 students, this figure was almost 30%. The comments between Year 2 and Year 3 students on the exchange rate features differ greatly with 55.9% Year 3 students found exchange rate features to be good or very good, while less than half (27.5%) Year 2 students found it to be good.

4.5.8 Economic Indicators

Economic Indicators							
	Very Good	**Good**	**Fair**	**Poor**	**Very Poor**	**Don't Know**	**Total**
Faculty		2 (28.6%)			2 (28.6%)	3 (42.9%)	7 (3.6%)
Year 2	2 (1.8%)	16 (14.5%)	48 (43.6%)	11 (10.0%)		33 (30.0%)	110 (56.7%)
Year 3	1 (1.3%)	12 (15.6%)	28 (36.4%)	14 (18.2%)	1 (1.3%)	21 (27.3%)	77 (39.7%)
Total	3 (1.5%)	30 (15.5%)	76 (39.2%)	25 (12.9%)	3 (1.5%)	57 (29.4%)	194 (100%)

Economic indicators in Equity Research include GDP, unemployment rate, consumer expenditure, etc. These are very helpful information for company and stock analysis. However, these indicators are available for a small number of countries and many of the data are outdated. Hence, this potential excellent tool in Equity Research is very undeveloped. It is not surprising to see that most respondents (39.2%) found the economic indicators to be fair and as many as 29.4% answered "don't know". Only 17% said it was good or very good and 14.4% found it poor or very poor.

4.5.9 How User Friendly is Equity Research?

How User Friendly is Equity Research?							
	Very Good	**Good**	**Fair**	**Poor**	**Very Poor**	**Don't Know**	**Total**
Faculty	1 (12.5%)	2 (25.0%)	3 (37.5%)		1 (12.5%)	1 (12.5%)	8 (4.1%)
Year 2	3 (2.7%)	26 (23.6%)	53 (48.2%)	8 (7.3%)	1 (0.9%)	19 (17.3%)	110 (56.4%)
Year 3	3 (3.9%)	35 (45.5%)	31 (40.3%)	3 (3.9%)	2 (2.6%)	3 (3.9%)	77 (39.5%)
Total	7 (3.6%)	63 (32.3%)	87 (44.6%)	11 (5.6%)	4 (2.1%)	23 (11.8%)	195 (100%)

Overall, 35.9% of the respondents found the user-friendliness of Equity Research to be good or very good, 44.6% found it fair, 7.7% found it poor or very poor, and 11.8% answered "don't know". Yet, the majority of Year 3 students (45.5%) found the user-friendliness of Equity Research to be good, while the majority of Year 2 students (48.2%) found it to be fair.

Comparing to the respondents' comments on the user-friendliness of the Company Research in 4.4.6, respondents rated the user-friendliness of the Company Research to be higher than the Equity Research. 45.4% rated the user-friendliness of the Company Research to be good or very good, while it was 35.9% with the Equity Research. It may be due to the fact that many features in Equity Research are not explained and users found it difficult to use.

4.6 Make Use of Extel for Course(s) Projects or Assignments

In answering the question "Will you make use of Extel for your 1996/1997 course(s) projects or assignments?", 5 faculty members said that they will and 4 responded they might. With this information, the Library contacted these faculty and offered to teach their students Extel for their projects and assignments. As a result, 11 classes were organized for 563 students taking Finance classes in the 1996/1997 academic year.

4.7 Difficulties Encountered in Using Extel

The followings are the respondents' comments to "What difficulties have you encountered in using Extel?":

- Very difficult and complicated to use. It is not user friendly and the online help is poor. Has to do it by trial and error. For example, commands for retrieving trading volume or market capitalization are not obvious.
- Don't know how to use some of the features. Hence, cannot use many valuable information.
- Comparing stocks and different indices on the same chart.
- Unable to download data for different stocks at one time.
- Retrieve older company news.
- Data are not updated enough. Some information are outdated.
- Meaning of Rebased 0 and others are unclear.
- Some industry codes are inappropriate for certain companies.
- Difficult to use SIC (Standard Industrial Classification) codes for comparing competitors.
- Sometimes output garbage when printing company reports.
- Too slow when many people are using it or can't even get in.
- Extel shuts down around midnight.

Several students made the same interesting remark that "Extel shuts down around midnight". Our Systems Department confirmed that Extel is available 24 hours a day everywhere on campus. Probably many students frequently tried to use Extel late at night. Therefore, when too many people tried to access the database at the same time, many did not get in. Although many people have various kinds of difficulties in using Extel, 8 people stated that they had no difficulty in using the database at all.

4.8 Things that Extel Should Be Improved on

Respondents' comments to "Please comment on a few things Extel should be improved on?" include:

- More frequent update.
- Make it more user friendly and improve the online help.
- Increase the country, company, and security coverage. Some commented that Extel is too U.K. focus.
- Include earlier data such as the older financial statements.
- Include the whole history of the stock prices.
- Provide more detailed information in the Extel Cards.
- Provide more news especially for earnings and dividends. Include announcement date in the news.
- Allow users to compare more than 4 stocks/indices on the same chart.
- Add in economic indicators for all countries. Include interest rates, production indices, inflation rates, and balance of payment statistics.
- Provide more detailed ownership information on companies. Allow ownership information to be saved.
- Include main stockholders' names for stockholders structure analysis.
- Include financial ratios such as ROA, ROE, ROIC, and WACC, etc.
- Add options and futures. Include more warrants and mutual funds.
- Increase the speed of accessing the information.
- Company news would be more useful if they are the newspapers news, but not Extel summarized news. Also, include the source of the news.
- Add big private companies information.
- Maintain more reliable data.

Thirty-four respondents commented that they want Extel to be updated more frequently, for example, weekly or daily. At present, our Library is subscribing to the monthly update, it would cost the Library

more for subscribing to the weekly update. It would help if Extel can offer academic libraries weekly update at an affordable rate.

5. DISCUSSION

5.1 For Faculty Research

Although the majority of Finance faculty who were surveyed found Extel useful for their research, a number of other faculty commented that Extel lacks the depth for rigorous research. In Equity Research, some stock prices do not go back far enough. In Company Research, it only keeps the financial data for the most recent 5 years. To researchers who need to conduct in-depth research, they need 10-20 years of historical data. Extel can gain popularity among academic researchers by increasing the depth of its data coverage.

5.2 For Students' Projects

In academic institutions, it is the students who find Extel most useful. It is because Extel is produced mainly for stock analysts and financial investors in the business world and using it for projects in University gives students a taste of what it is like in the real world. Extel is a good channel to bridge students between the financial theories learned in classes and how investors really play in the real world.

The usefulness of Extel to students' projects can be summed up by a faculty comment "The students can access almost exactly the same information that people are using in the industry. The students can actually 'feel' how theories taught in classes can be applied to the real world".

5.3 Company Research

From 4.4, we learned that among the five major features of Company Research, three were rated as good or very good overall. They were companies coverage, financial statement information, and search features in Extel Cards. The other two features were rated as fair. The two were company news coverage and search features in News Cards.

Companies Coverage: Overall, the respondents rated the companies coverage to be good. However, when it is compared to the actual number of companies listed in stock markets around the world, the companies coverage in Extel is good only for Belgium, Hong Kong, Indonesia, Ireland, Malaysia, Singapore, Switzerland, Thailand, and U.K. Extel's coverage is not so good for many other countries. (Appendix 1)

As commented by a respondent, the companies coverage in Extel was too focus on U.K. Since Extel positions itself to be an international stock database, it should include more stocks from around the world. Its coverage on the U.S. companies is especially disappointing. Extel only covers 537 U.S. stocks while simply New York Stock Exchange has over 2600 stocks. This has not included Nasdaq Stock Market, American Stock Exchange, and other exchanges in the States. This is quite problematic when users try to compare the U.S. stocks with stocks in other countries. Since the U.S. stock market is the largest stock market in the world and the movement of the U.S. stock market always has great influence on stock markets in other countries, it might not be a good idea for Extel to have such a poor U.S. coverage.

Company News Coverage: The company news coverage was rated only as fair. One big problem may be due to the source of the news. When faculty and students mention the news occurred to a company in their researches or projects, they need to cite the source of the news. Since the company news in Extel are summarized from various stock exchanges and news sources, it would help the academic users if the source of the news are listed. In addition, quite a few written comments from the respondents stated that the news in Extel are too brief and sometimes it is missing some important news announcements from companies. Ideally, these company news would enjoy better credential if they are taken directly from major newspapers around the world. It might be a good idea for Extel to contract out this part of the work to the major newspaper publishers. Otherwise, a better quality control is needed if Extel staff are to continue to do it themselves.

Information of Financial Statements: Extel's main customers are financial investors who primarily need recent information to base their investment decisions. Probably because of that, only 5 years of financial information are kept on Extel Cards. As mentioned in 5.1 that certain academic researches require 10-20 years of data. Extel will win more academic support if it keeps the whole history of the data on the file.

Search Features in Extel Cards and News Cards: These two are "hidden treasures" to many as 17.3% and 21.4% respondents "don't know" about it respectively. Many users complained about the complexity of the information organized in Extel and suggested to simplify the search interface and make it more user-friendly. In addition, there are many useful information such as the figures in the financial statements that cannot be extracted. It would certainly make Company Research more useful if these figures are made searchable.

At present, when users want to search for all the stocks traded in a stock market, the only way to do it would be to search by country of quotation, which includes stocks that are primarily listed in the stock exchange. This causes problems because it would miss out the stocks that are not listed primarily in the exchange. For example, when searching for all the stocks traded in Hong Kong, one would not find Hongkong Bank with country of quotation equals to Hong Kong because Hongkong Bank is primarily listed in London. A more practical search feature should be added, i.e., allow searching by country where the stocks are trading, not just by where they are primarily listed.

Online Help: A number of respondents commented that the existing online help in Extel is too brief and so it is not useful to guide them through all those complicated functions available in the database. A detailed online help feature with lots of examples would be helpful. A good example of online help feature would be the online help available in Microsoft Office. It tells people in details all the steps to take to do certain things. Sometimes, it even gives an onscreen demo for performing certain tasks. As "a picture is worth a thousand words", providing onscreen demo would certainly be a smart idea.

Printed Manual: The printed user manual for Extel is so thin when it is compared to the user manuals of many other databases available in our Library. The Extel manual has been that thin for the past three years. It has to be revised substantially to make it a useful tool for librarians as well as for users. The manual should explain and clearly define all the features available in Extel. It should also explains all the special financial terms used in Extel so that people without a Finance background can make good use of the database. Plenty of examples should be given in the manual to show people how to use various functions of Extel.

5.4 Equity Research

In 4.5, we know that 5 out of 8 major features in Equity Research were rated as good or very good, and 3 were commented as fair. The 5 good features included: stocks coverage, stock market indices coverage, methods for comparing stocks and/or indices, ability in manipulating graphs, and the exchange rate features. The 3 fair features were: length of stock price coverage, indicators' features, and economic indicators.

Stocks Coverage: Since the stocks coverage is very similar to the companies coverage, please see "Companies Coverage" under 5.3 for comments.

Length of Stock Price Coverage: It is not surprising to see that the length of stock price coverage was rated as fair only because a number of stocks are missing the earlier years of the stock data. For example, Cheung Kong Holdings Ltd. went public in 1972, but Extel has Cheung Kong's stock data only from 1987. These "missing" data should be re-entered into the database because providing the whole history of the stock prices is important for many researches.

"Hidden Treasures": Indicators' features, methods for comparing stocks and/or indices, and the exchange rate features are three "hidden treasures" in Equity Research with 12.4%, 16%, and 22.3% of the respondents "don't know" respectively. Extel should make these functions more obvious to users as they

are so useful to stock analysis. With a simplified user interface, detailed and helpful online help as discussed in 5.3, these "hidden treasures" may be uncovered.

Economic Indicators: Basic economic data are very useful to stock analysis. Unfortunately, this part of the database only includes a handful of countries and many of the data are outdated. For example, Extel only contains unemployment rate for 6 countries (Canada, France, Germany, Italy, Japan, and USA) and the data is only up to 1991. No wonder the majority of the respondents rated this feature as fair only. Extel can easily improve its score in this aspect by including more countries and keeping the data up-to-date. Also, it will be useful to include other economic data such as the interest rates, production indices, inflation rates, and balance of payment statistics.

Other Desirable Features: Options, futures, daily high/low for stocks are useful information to add. It is desirable to include more warrants and mutual funds.

5.5 Database's User-Friendliness

From 4.1, we learned that 77.9% Year 3 students have used Extel more than 10 times, while 76.6% Year 2 students have used Extel 0-3 times only. In 4.4.6, we realized that as many as 63.6% of these experienced Year 3 students said that the user-friendliness of Company Research was good or very good, while only 34.3% of these relatively new Year 2 users said it was good or very good. Besides, only 24.7% Year 3 students answered "fair" to the user-friendliness of Company Research, while as many as 41.4% Year 2 students responded "fair" to the same question.

Those who are more familiar with the database (Year 3 students) tend to rate the database's user-friendliness higher than those who are less familiar with the database (Year 2 students). We found the same phenomenon in 4.5.9 that Year 3 students rated the user-friendliness of Equity Research higher than Year 2 students. That means whether a person thinks a database is user-friendly has a lot to do with how familiar the person is with the database. This suggests that the user-friendliness of a database is not a static feature. The level of user-friendliness of a database perceived by an user increases with the person's knowledge of the database.

5.6 Library Instruction for Extel

In answering the question "In what ways do you find Extel useful for your research?", one student replied "after the Library class on Extel". In responding to the question "What difficulties have you encountered in using Extel?", a student said, "It is easy to use. The Library classes are useful". Another student answered, "not very familiar with Extel, need more Library instruction". This shows the important role of Library instruction when introducing a complex database like Extel in a university. In addition to the course specific Extel classes mentioned in 4.6 for 563 students in the 1996/1997 academic year, the Library offered 6 open workshops during the same period and attracted 150 participants from various departments.

To meet the need of self learners, the Library designed two detailed hypertext Extel user guides and they are available at http://library.ust.hk/res/guides/extel/extel_company.html (for Company Research) and http://library.ust.hk/res/guides/extel/extel_equity.html (for Equity Research). Another Quick Guide is available as a printed guide and also available on the Web at http://library.ust.hk/res/guides/extel.html

All these proactive Library instruction activities have proved to be effective. During the whole 1996/1997 academic year, a lot less questions were asked at the Reference Counter regarding Extel when compared to the period before that academic year. This is beneficial to both the users and the librarians.

6. CONCLUSION

Extel is definitely an asset to any university that has a study program of Finance. It is a good international stock database and is ideal for students' projects. To serious researchers, Extel lacks the depth of information and the length of coverage. Overall, the respondents rated the user-friendliness of Company Research to be good or very good, and they commented the user-friendliness of Equity Research to be fair. Extel can improve its database by providing better companies and stocks coverage, more detailed company news, longer years of financial statement information and stock price coverage, more user-friendly interfaces with better online help, an in-depth hardcopy user manual, and up-to-date economic indicators.

Regarding the user-friendliness of a database, it is noted that the level of user-friendliness of a database perceived by an user correlates with the person's familiarity of the database. The study also shows the important role of library instruction in introducing a complex database such as Extel into a library. A database is useful only when people know how to use it!

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Appendix 1: Country Coverage in Extel

Country of Quotation	*Number of companies in Extel (A)*	*Number of listed companies for the Country (B)*
Australia	390	1135 (a)
Austria	104	150 (b)
Belgium	160	165 (b)
Canada	100	1265 (a) TSE only
China	77 (e)	89 (f)
Denmark	103	252 (b)
France	751	906 (b)
Germany	378	681 (a)
Hong Kong	577	561 (a)
Hungary	29	28 (d)
Indonesia	237	230 (b)
Ireland	79	80 (b)
Italy	221	326 (b)
Japan	977	1766 (a)
Malaysia	584	618 (a)
Netherlands	205	314 (d)
New Zealand	58	138 (b)
Norway	55	115 (c)
Philippines	102	201 (b)
Singapore	279	223 (a)
South Africa	86	640 (b)
South Korea	221	760 (a)
Spain	144	387 (c)
Sweden	139	229 (b)
Switzerland	259	252 (b)
Taiwan	137	382 (a)
Thailand	487	454 (a)
U.K.	2665	2091 (a)
U.S.A.	537	2602 (a) NYSE only
Total	10141	

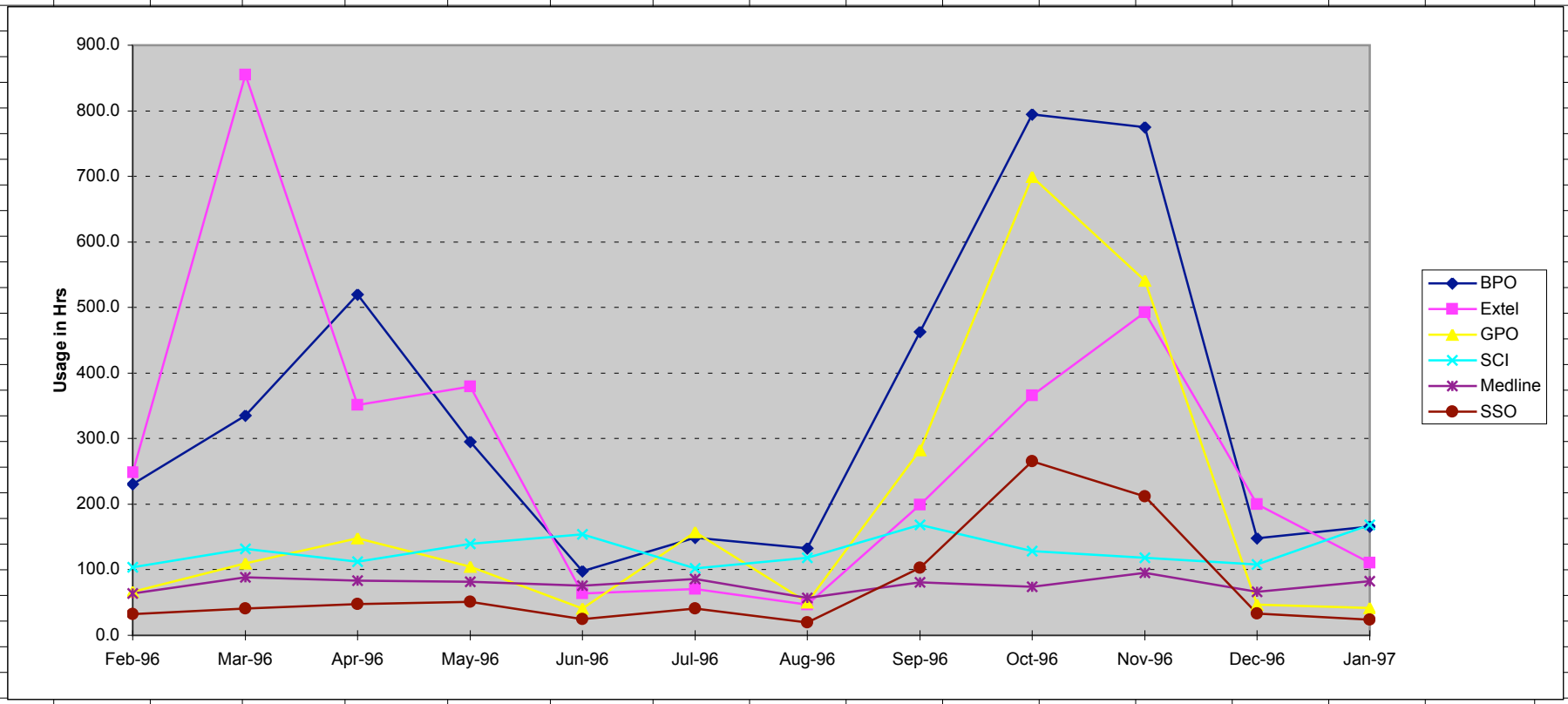
(A) Figures were obtained by searching Extel for listed companies in selected countries in May 97.
(B) Mainly covers the domestic companies in each of the countries.

(a) Figures from The Stock Exchange of Hong Kong. (1996). *Stock Exchange fact book*, Hong Kong : The Stock Exchange of Hong Kong.
(b) Figures from Dow Jones & Company, and Morningstar. (1996). *The Dow Jones guide to the world stock market*, N.J. : Prentice Hall.
(c) Figures from *The 1994 Handbook of world stock and commodity exchanges*. (1994). Mass. : Blackwell Finance.
(d) Figures from Garneau Maurice (1993*). World directory of stock exchanges. World review of stock exchanges*, Montreal: M. Garneau.
(e) Extel mainly covers B shares that can be invested by people outside the mainland China.
(f) The figure only includes the B shares in Shanghai Stock Exchange and Shen Zhen Stock Exchange reported in the *Hong Kong Economic Times* on May 23, 1997.

Appendix 2: Usage Statistics of Extel and Other Popular CD-NET Databases at HKUST Library

(Usage in Hours)

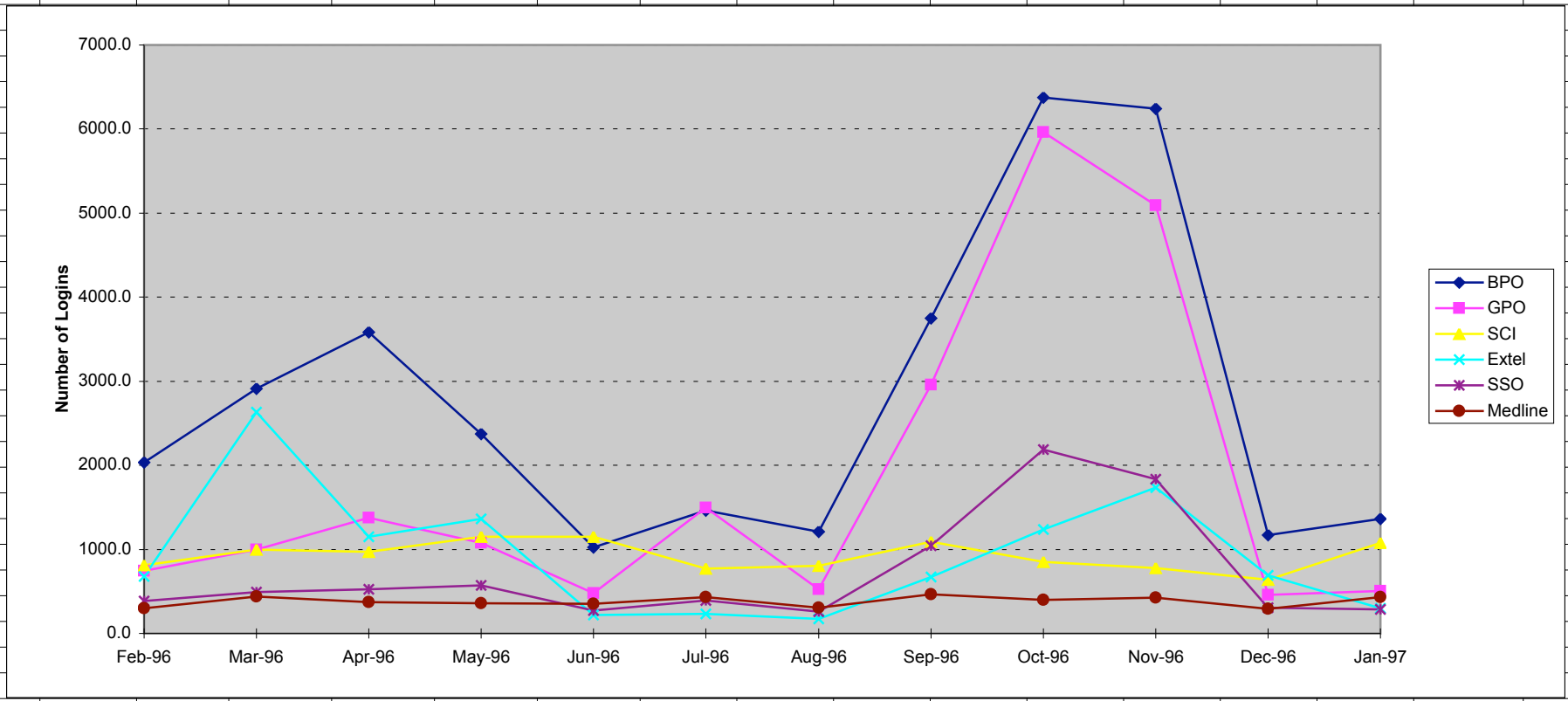
	Feb-96	Mar-96	Apr-96	May-96	Jun-96	Jul-96	Aug-96	Sep-96	Oct-96	Nov-96	Dec-96	Jan-97	Total/ Year	Average/ Month	Average/ Day
BPO	230.2	335.5	519.6	294.9	97.6	148.6	132.7	462.8	794.1	775.0	148.2	165.9	4105.2	342.1	11.2
Extel	248.2	854.8	351.0	379.5	63.8	70.8	46.7	199.4	365.7	492.6	200.1	110.8	3383.2	281.9	9.3
GPO	66.3	109.5	148.4	104.7	40.8	157.1	50.3	282.6	698.9	541.3	46.5	41.3	2287.9	190.7	6.3
SCI	103.6	132.1	112.4	139.5	153.7	102.0	118.5	168.1	128.1	118.5	107.9	168.6	1553.0	129.4	4.3
Medline	64.0	88.6	83.2	81.4	76.0	86.3	56.7	80.9	73.9	95.3	66.6	82.4	935.2	77.9	2.6
SSO	32.2	40.6	47.8	50.7	24.4	40.9	19.7	102.6	265.8	211.5	32.9	23.5	892.5	74.4	2.4



Appendix 3: Usage Statistics of Extel and Other Popular CD-NET Databases at HKUST Library

(Number of Logins)

	Feb-96	Mar-96	Apr-96	May-96	Jun-96	Jul-96	Aug-96	Sep-96	Oct-96	Nov-96	Dec-96	Jan-97	Total/ Year	Average/ Month	Average/ Day
BPO	2034.0	2911.0	3582.0	2372.0	1021.0	1461.0	1209.0	3747.0	6374.0	6243.0	1172.0	1365.0	33491.0	2790.9	91.8
GPO	742.0	998.0	1376.0	1076.0	481.0	1498.0	524.0	2957.0	5964.0	5095.0	461.0	507.0	21679.0	1806.6	59.4
SCI	811.0	1000.0	970.0	1153.0	1148.0	774.0	805.0	1087.0	853.0	775.0	637.0	1075.0	11088.0	924.0	30.4
Extel	675.0	2630.0	1151.0	1362.0	220.0	230.0	172.0	673.0	1235.0	1733.0	690.0	300.0	11071.0	922.6	30.3
SSO	384.0	493.0	526.0	575.0	271.0	395.0	256.0	1046.0	2186.0	1835.0	307.0	289.0	8563.0	713.6	23.5
Medline	297.0	436.0	372.0	358.0	354.0	431.0	306.0	465.0	399.0	425.0	291.0	435.0	4569.0	380.8	12.5



Appendix 4: Questionnaire on Extel for Finance Faculty

Dear

Since our Library introduced the Extel database to our users this February, the database has been used very heavily especially by the Department of Finance. I am carrying out a study on Extel and would like to hear your comments on the database. The main purposes of the study are:

- Determine the useful features of Extel to our finance faculty members and students. This understanding will help librarians to decide what they should teach the users about the database.
- Find out which faculty members will be using Extel for their courses. This will help planning classes for students.
- Identify areas (contents and functions) which Extel should be improved on. The comments will help Extel developers in making the product more customer oriented.

Thanks a lot for your help!

Sam Chu, Reference Librarian Ext. 6763

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1. How many times have you used Extel?

_____ 0 time _____ 1-3 times _____ 4-6 times _____ 7-10 times _____ > 10 times

If "0 time" is chosen, you may stop here and return the questionnaire. Thanks!

2. How useful is Extel for your research?

_____ very useful _____ useful _____ fair _____ not useful

3. How useful is Extel for your students' assignments or projects?

_____ very useful _____ useful _____ fair _____ not useful

4. Please rate Company Research by the following categories:

	Very good	Good	Fair	Poor	Very poor	Don't know
Companies coverage	____	____	____	____	____	____
Company news coverage	____	____	____	____	____	____
Information of Financial statements	____	____	____	____	____	____
Search features:						
in Extel Cards	____	____	____	____	____	____
in News Cards	____	____	____	____	____	____
How user friendly is Company Research?	____	____	____	____	____	____

5. Please rate Equity Research by the following categories:

	very good	good	fair	poor	very poor	Don't know
Stocks coverage	____	____	____	____	____	____
Length of stock price coverage ____		____	____	____	____	____
Stock market Indices coverage	____	____	____	____	____	____
Indicators' features (e.g. P/E ratio)	____	____	____	____	____	____
Methods for comparing stocks and/or indices (e.g. Rebased 0)	____	____	____	____	____	____
Ability in manipulating graphs (e.g. zoom in, zoom out)	____	____	____	____	____	____
Exchange rate features	____	____	____	____	____	____
Economic indicators (e.g. GDP, unemployment rate, etc.)____ ____		____	____	____	____	____
How user friendly is Equity Research?	____	____	____	____	____	____

6. In what ways do you find Extel useful for your research?

7. In what ways do you find Extel useful for your students' projects or assignments?

8. Will you make use of Extel for your 1996/1997 course(s) projects or assignments?

_____ I will (Please indicate the course name(s):)
_____ I might (Please indicate the course name(s):)
_____ No

9. What difficulties have you encountered in using Extel?

10. Please comment on a few things Extel should be improved on?

Appendix 5: Questionnaire on Extel for Finance Students

Dear Finance Students,

Since our Library introduced the Extel database to our users this February, the database has been used very heavily especially by the Department of Finance. I am carrying out a study on Extel and would like to hear your comments on the database. The main purposes of the study are:

- Determine the useful features of Extel to our students. This understanding will help librarians to decide what they should teach the users about the database.
- Identify areas (contents and functions) which Extel should be improved on. The comments will help Extel developers in making the product more customer oriented.

Thanks a lot for your help!

Sam Chu, Reference Librarian

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1. How many times have you used Extel?

_____ 0-3 times _____ 4-6 times _____ 7-10 times _____ > 10 times

2. How useful is Extel for your assignments or projects?

_____ very useful _____ useful _____ fair _____ not useful

3. Please rate Company Research by the following categories:

	Very good	Good	Fair	Poor	Very poor	Don't know
Companies coverage	____	____	____	____	____	____
Company news coverage	____	____	____	____	____	____
Information of Financial statements	____	____	____	____	____	____
Search features:						
in Extel Cards	____	____	____	____	____	____
in News Cards	____	____	____	____	____	____
How user friendly is Company Research?	____	____	____	____	____	____

4. Please rate Equity Research by the following categories:

	very good	good	fair	poor	very poor	Don't know
Stocks coverage	____	____	____	____	____	____
Length of stock price coverage ____		____	____	____	____	____
Stock market Indices coverage	____	____	____	____	____	____
Indicators' features (e.g. P/E ratio)	____	____	____	____	____	____
Methods for comparing stocks and/or indices (e.g. Rebased 0)	____	____	____	____	____	____
Ability in manipulating graphs (e.g. zoom in, zoom out)	____	____	____	____	____	____
Exchange rate features	____	____	____	____	____	____
Economic indicators (e.g. GDP, unemployment rate, etc.)____			____	____	____	____
How user friendly is Equity Research?	____	____	____	____	____	____

5. In what ways do you find Extel useful for your projects or assignments?

6. What difficulties have you encountered in using Extel?

7. Please comment on a few things Extel should be improved on?