1990

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G. Gniewosz
University of Wollongong

Publication Details

This working paper was originally published as Gniewosz, G, Use of Financial Accounting Information in Share Investment Decisions, Accounting & Finance Working Paper 90/15, School of Accounting & Finance, University of Wollongong, 1990.

UNIVERSITY OF WOLLONGONG

DEPARTMENT OF ACCOUNTANCY

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by Gerhard Gniewosz

May 1990

WORKING PAPER NO. 15

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By G. Gniewosz

Senior Lecturer in Accounting

Address

Mr G. Gniewosz

Department of Accounting

University of Wollongong

PO Box 1144

WOLLONGONG NSW 2500

Australia

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Abstract

This paper describes the use of accounting and other information in the share investment decision process of an institutional investor. The study was conducted within the context of an organisation's everyday working environment. The focus was on qualitative data and analysis of a case study rather than on quantitative data and general tendency analysis of a random sample.

The significance of the annual report as an information source changes over the period of one year. It varies from serving as a primary information source to serving in a confirmatory role. Furthermore, the annual report also acts as a stimulus for identifying specific questions rather than merely as a source of information in response to prior questions.

Key Words

Information interaction
Use of annual reports
Analysis as continuous process
Annual report functions
Financial accounting information use
Annual report as primary information source
Annual report as confirmatory source.

Rationale and focus of this study.

This paper reports the results of an exploratory case study, investigating the use of accounting information and information from other sources, in the share investment decision process of an institutional investor. The purpose of the study was to investigate information uses, including its interaction, in the share investment decision process within the context of 'real life' complexities. The aim was to obtain qualitative data from a case study rather than focus on quantitative data of a random sample. 'Real life' complexities means investigating the investment decision process in the everyday working environment rather than in an environment structured for the purpose of the study. This paper provides a descriptive account of a real-life situation.(1)

The focus is on an organisation as an investor and in particular on individuals within an organisation. This does not, however, mean a focus on cognitive processes of individuals in isolation from their environment, a research focus often taken in Human Information Processing studies.(2) Neither does this mean a strictly organizational decision making focus.(3) Furthermore the research orientation of this study falls between efficient market research on the one hand, and survey research on the other.

Efficient market research indicates that annual financial reports contain only modest information content for investors.(4) This implies that the market obtains a large proportion of the information contained in annual reports from other sources prior to the release of these reports. Efficient market studies are aggregate studies; they are only concerned with aggregate market reaction. Furthermore, these studies are 'black box' studies. They are input/output studies and are not concerned with the content of the 'black box' (or process) between input and output.

Several survey studies have addressed the question of the importance of different information sources.(5) These studies were, among other things, concerned with priority ranking of different information sources, based on participants' perception. Although the findings from these studies are somewhat inconclusive, annual financial reports are generally found to rank very high in the stated order of information priority.

This paper attempts to build a bridge between survey research and efficient market research by reporting the findings of a detailed in-depth study at the individual investor level. It explains what is happening at the individual investor level, thus reconciling the findings of what investors report in survey studies with the findings of aggregate market studies.(6)

Two phases of the equity investment decision process are identified in the literature;(7) investment analysis and portfolio decision. Investment analysis is presumed to precede the portfolio decision and to provide a basis for that decision. With regard to information flow in this process, an institutional investor's two-phase process can thus be illustrated as shown in Figure 1.

[Insert Figure 1 about here]

Arrows in Figure 1 represent the communication/feedback of data/information in the interaction between analyst and portfolio manager. Competing external information sources provide an input to the investment analyst and the portfolio manager. The portfolio manager faces internal and external investment constraints, and at the same time these constraints are influenced by the individual's actions. The portfolio manager's actions become thus part of the external information sources available in the market. This study focuses largely on the competing external information sources faced by investment analysts.

Connolly (1977) places decision-related information sources for individuals within organizations into three categories:

(i) as passive receivers and without any specific effort on the recipients' part and as part of their regular reading and monitoring of professional and nonprofessional publications as a normal part of their organizational role,

(ii) actively sought by individuals in response to a specific decision, for example an investigation aimed at discovering some specific fact,

(iii) from a memory bank; being information previously acquired and stored.

Connolly subsequently hypothesizes that:

(i) Information acquired by active search will be more decision specific than information acquired as a passive member, and

(ii) the ease of acquiring information, or of converting it into usable form, will affect the extent to which it is used.

The implications of these hypotheses are that annual financial reports, which are routinely received, are less decision specific than information actively sought. Secondly, since annual financial reports are routinely received (i.e. they are easily obtained) they are extensively used.

In summary, the focus of this paper follows the following specific orientations:(8)

1. the interaction between information from different sources over a full investment period,

2. the extent to which annual report information is share investment decision specific.

Approach to inquiry.

Since the purpose of the study was to capture a process in action, the adopted research approach of an in-depth exploratory case study rather than a central-tendency study of a random sample was considered essential.[9] Furthermore the focus was on qualitative data and knowing rather than quantification and subsequent statistical analysis of certain activities, thus quantitative knowing.[10]

One of the main methods of data collection was direct observation of the activities within the organisation.[11] Data was collected by observing individuals in their daily activities within their natural environment.

Direct observation was supplemented by other data collection methods when considered necessary, for example, individuals were questioned whenever it was considered necessary for the clarification of observed data. Analysis of documents such as working papers, written formal and informal reports, and documents presented at the various meetings, provided other sources of data.

The use of verbal protocol analysis, as outlined by Biggs (1978) and Bouwman (1981), proved to be inappropriate due to the rather flexible nature of the study. One method of data collection adopted was nevertheless the taping of the verbalizations of analyses of annual reports. In many cases analysts had analyzed the annual reports before these tapings took place, which means analysts repeated the reasoning process of their analyses for the purpose of taping it. The tape recordings averaged about 1.5 hours in length, varying from 1 hour to 2.5 hours. Tapings were followed up by unstructured interviews, focusing on the content of the tapes.

Data collected from various sources was closely examined. Generalization of findings were continuously modified as the analysis progressed; analysis was being carried out while data collection was still in progress.[12] The reported findings have been closely examined as to their consistency over the period of research.

Any research using case studies is rather expensive in terms of time taken. The question as to what constitutes an appropriate time spent on a case study is problematic. Given the focus of this study, it was considered appropriate that the activities, representative of a twelve months period, had to be adequately captured.

The relationship between the researcher and the individuals within the organisation was at all times relaxed and members did not give any indication that they would have behaved differently in the absence of the researcher. It must also be remembered that actual share investments were continuing during the research period and thus individuals had to perform in their normal way. No obtrusive measures, as outlined by Webb, et al, (1966), are thus expected from the presence of the researcher.

The selection of the particular institutional investor was made for the following major reasons:(13)

a) It is one of the major Australian institutional share investors and thus plays a major role as a financial intermediary in Australia. Its investment policies and actions are an important factor in the overall domestic share market.

b) The investor has a strong stated commitment to, and belief in, fundamental analysis. Because of the focus of this study such a commitment was required for the institution to be selected.

c) The institution was willing to participate in the study. It was envisaged that the focus of the study would require free access to all relevant internal processes as well as information, which in parts could be of a rather confidential nature.

Sampling for this study was, therefore, 'purposeful' rather than random.(14)

To reduce the paper to a manageable size, the focus was reduced to the industrial share investment sector, thus excluding the mining sector. Another major reason for the exclusion of the mining sector was the different evaluation processes followed. Mining companies are evaluated more distinctly in terms of global supply, demand and price structure for products. This is not to say that these global factors are not important for industrial companies. It is, however, the distinct difference in the importance of these factors in the whole evaluation process which made these companies unsuitable for inclusion in this study.

Analysts are responsible for the information gathering, information analysis, interpretation of results, and investment recommendations of assigned companies. It is thus the analysts' responsibility to constantly update their views on the companies as new information comes to hand. An analyst, therefore, develops an in-depth specialist knowledge of certain industries, and companies within industries.

<u>Interaction between information from different sources over a one-year investment period</u>.

It is one of the analysts' functions to originate investment/disinvestment recommendations for the shares under their control. In order to perform this function analysts attempt to maintain a current view on the shares at all times. This is achieved by keeping up-to-date on all relevant information, available at any one point in time, affecting the particular shares, whatever the source of the information. Analysis of company relevant information is thus a continuous process rather than merely an exercise to be carried out in isolation at the time of the release of the annual report. This process is continuous even if no buy/sell recommendations may result at a particular point in time but may merely result in a confirmation that no change from the current situation is considered desirable.

Information sources can broadly be categorized into routinely received information and information directly sought. Routinely received information includes the financial reports (interim and final) published by companies,brokers reports, financial press reports, stock exchange reports, and various others. Directly sought information originates from the steps taken by individual analysts, based on specific questions or problems. For example a company visit, a phone call to the company or other market participants, or asking specific questions at the annual general meeting would fall into this category.

Information flow from various sources varies over the period of a year. Furthermore, the intensity of information flow from various sources varies during the year. For example, annual and semiannual reports are issued once a year, newspaper items appear whenever company activity warrants it, and brokers reports on individual companies appear whenever brokers see fit. The tempo and the nature of analysts' activity thus changes throughout the year and is partly governed by the annual information flow from major sources, for example the clustering of annual report releases.

Analyses of information from these various sources, and the eventual recommendations, are also affected by the analyst's experience as analyst in general, and by the experience with individual companies and industries in particular. The analysis process of an individual analyst is thus also affected by the extensiveness of the individuals 'long term memory' or 'memory bank'.(15)

Information from individual sources is not used in isolation, or in terms of some hierarchy of importance, but in a complementary way. For example analyst A made the following comment when forming an expectation of a particular share:

..... and I don't get those anymore from the annual report. I just get them from my whole variety of information which I may have written down as I did following the telephone contact. My major step at the visit, which was done the week before last, was to get an update view on this.

Information from different sources varies as to breadth, as well as depth. The complementary use of all these information sources provides analysts with a data base for buy/sell/hold recommendations in a dynamic market.

Findings from efficient market research confirm this continuous process of analysis, interpretation, and recommendation, by indicating that information from annual reports is incremental rather than revolutionary in nature.

The overall function of information from all sources is to provide an extensive as possible information base from which to make informed share investment decision recommendations. Within this overall function, information from different sources performs at times somewhat different specific functions, as well as taking on different levels of significance over one year.

The annual financial report is one of the major information sources used in the continuous process of share investment decision making. In relationship to other individual information sources, a considerable amount of time is spent on the analysis and digestion of the information contained in the annual report. Over one year, the time spent on certain other, more repetitive, information sources (for example, reading the financial press) does exceed the time spent on the analysis and digestion of annual report information. However, in terms of time spent on information received from one source at a single point in time, the annual report dominates all other sources. Of all the information sources used, the annual report is not only considered by analysts as most extensive and comprehensive but also as most important since it is the official 'snapshot', issued by the company itself. It is central to the whole information-use process in share investment decisions. The analysis of the annual report produces most extensive and detailed working papers, which are referred to later during the annual investment period whenever information is received from other sources.

Annual report analysis is a lengthy, and often interrupted exercise extending over several days. For example, on one occasion an analyst spent a whole day merely identifying the contributions made by some individual segments. The exercise was continued on a subsequent day. In the words of analyst F, analysis is 'quite a time consuming process'. In another case an analyst took over two hours to merely break up certain production figures, as shown in the annual report, into the various desired parts. After two hours it was lunch break and the analyst did not return to the same report for several days. At the same time it must be pointed out that this analyst was already familiar with the particular annual report. In yet another case, an analyst spent about one hour to merely find an arithmetical mistake on the worksheet and subsequently did not continue with that particular analysis.

Furthermore, analysts do not necessarily perform detailed analyses as soon as annual reports are received. Depending on the urgency of other work at hand, detailed analyses may be postponed, especially if the reported results are in line with expectations. It must also be remembered that annual report receipts are clustered. Several annual reports may be received by an individual analyst on one particular day. Immediate attention to all reports may thus be physically impossible.

The annual report serves various functions within the investment period of one year, depending on the time in the year, as well as the nature and content of information from other sources.

One function of the annual report is to provide the base for the evaluation of the accuracy of prior forecasts. As analyst E pointed out:

I reconcile my prior forecast with the annual report, particularly if there have been significant changes either to the company, or the results have been a bit unexpected and/or for some reasons the brokers views, if you think, are inaccurate.

Although all reported actual results are reconciled with the respective forecasts, the degree of reconciliation varies not only between individual analysts but also for individual analysts at different times. The extent of reconciliation is partly determined by the analyst's detailed knowledge of the particular company.

Any detailed analysis of the difference between forecasted and actual financial results is made to gain an understanding of the particular factors which gave rise to the difference. The knowledge gained from this exercise is stored for future use. It must however also be remembered that the forecast, which is being reconciled may have been periodically updated over the last year as part of the analyst's continuous process of keeping up-to-date.

The annual report is also used to provide a further set of figures in the company's financial history. The function of the annual report is thus to establish a trend (or time-series) of financial performance by management of their stewardship function.

With regard to forecasting future performance, the annual report is not used as a direct extrapolation tool. Analysts do not statistically extrapolate the time-series of past results. The annual report does however provide a large part of the information base for forecasts at a particular point in a year. For example, the disclosed non-current assets figure is used to forecast the depreciation expense for the following year, and the disclosed term-liabilities to forecast the interest expense.

The annual report also serves as an information base for identifying the underlying factors which gave rise to the particular financial result. Analysis of the annual report provides an understanding of the composition of the results, for example the composition of net-profit-after-tax. Annual report analysis thus provides an understanding of the 'real-world' reasons for the financial result. For example, analyst F justified the detailed analysis of the disclosed sales figure by one particular company as follows:

> This is quite a time consuming process...
> But I have to get the relative history right before I can make predictions based on what they have done in the past.

It is the understanding of the factors underlying the current financial results which is used as the starting point for the subsequent forecast of financial results.

Despite the use of the annual report as an information base for gaining an understanding of the composition of the results, analysts do also rely extensively on their accumulated knowledge of the company in the explanation of the underlying factors for the particular financial results. The function of the annual report in this respect, therefore, partially depends on the analyst's 'long term memory'.

The annual report also serves the function of confirming information from prior/other sources. For example, the knowledge of a major change in fixed assets since the time of the previous annual report analysis/ forecast may have been gained from other information sources. In this case, the annual report performs a confirmatory function rather than a primary information function. It serves as a check point of accuracy of information from other sources.

Another function of the annual report is that it acts as a stimulus in identifying questions, the answers to which have to be obtained from other sources, for example by asking the company directly. Thus, rather than take the annual report as an answer to an inquiry, analysis of the annual report is used as a stimulus for identifying additional questions to be investigated. For example the analyst may consider total revenue to be rather unexpected and, therefore, seek more detailed information as to its sources. Other examples are inquiries into the reasons for particular segment contributions, the terms and conditions of certain contractual arrangements, and certain physical aspects of the company's operations.

The functions of the interim report are somewhat similar to that of the annual report. In addition, the half-yearly report, as the official half-way mark, is used to check the accuracy of expectations at that point. The interim report is also used to revise the forecast for the remainder of the year and extend the forecast for a further six months.

The financial press is generally the first passively received information source, although at times the first passive source is represented by other sources such as, for example, stockbrokers reports. This information provides the stimulus for a rather hurried analysis of its impact on the previous forecast, thus initiating the rechecking of expectations. This instant attention to press releases strongly contributes to the, in the literature claimed and demonstrated, information market efficiency.

Peer reports, for example from share brokers, basically serve a confirmation role for the internal analysis and forecast. An agreement with peer reports provides a sense of confidence in the likely achievement of the internally forecasted results. A disagreement, on the other hand, generally results in an attempt to reconcile the difference by obtaining the underlying assumptions of the forecasts from individual members of the peer group.

Share investment information requirements are not entirely fulfilled from routinely received sources but supplemented by 'actively sought' information. One of these major sources is, in addition to stockbrokers, the company itself. This source is tapped in one of two ways. On the one hand information is sought during an open forum, for example by asking questions of the company during a meeting such as the annual general meeting, or during a company address to a special interest group such as a stockbrokers' luncheon. Alternatively, information which is often considered to have a competitive investment advantage, (for example, where the significance of certain public information is considered not to be properly appreciated by the market), is sought during an individual contact with the company.[16]

Information gathering company visits can be categorized into three major types:

(i) Company visits which are basically part of the 'familiarization with the company' stage. This type of visit is made at the time when the analyst is somewhat inexperienced with a particular company and/or industry. This does however not necessarily mean the analyst is inexperienced as an analyst or inexperienced in making company visits. It is generally believed that two to three company visits are required to get a reasonably detailed understanding of a company's operations, the thinking of management, and the environment in which the company operates.

(ii) Company visits which basically provide an update of previous visits. Periodic company visits are one way of retaining a detailed company and industry knowledge. Update-visits are also made to understand the implications of changes in senior management, changes in company operations, or changes is the company's operating environment. Company visits of this nature have a broad, rather than a specific problem, focus.

(iii) Company visits/contacts which are made to gain an understanding of a specific problem. For example, from the analysis of the annual report the analyst identifies certain items of information which are not disclosed in the annual report and which are not available from other sources but are considered to be important, for example a significant change in operating profit margin percentage. Alternatively, this type of company visit is originated by various other information sources such as brokers reports, or even a financial press release.

Company visits are scheduled whenever it is felt necessary. However, company visits in the first category, and to some extent the second, are generally scheduled for the time of year when relatively few annual reports are received. Visits/contacts in the third category are generally scheduled at short notice and are mainly of short duration.

<u>The extent to which information in the annual report is share investment decision specific</u>.

At the micro level the investment process can be conceptualized as consisting of the following phases: (i) analysis of past performance, (ii) forecast of future performance, (iii) investment recommendation and (iv) actual investment. Although these four phases are stated as separate phases, it must be realized that they often do not occur in a strict sequential fashion. For example, information received from the morning newspaper is often used for the second phase without formalized attention to the first. On the other hand, analysts follow sequentially all four phases on receipt of the annual report.

Within this process, investment recommendations are based on professional judgment, focusing on four key aspects. Standardization of recommendation criteria into these four aspects is seen as a necessity for effective communication within the organizational setting. Also, it is perceived that through standardization consistency of investment recommendations are achieved and consistent investment decision making facilitated. Annual report information is used, explicitly or implicitly, in all four key areas to varying degrees.

(i) The company's growth prospects.

The attention is mainly on those factors which have the greatest bearing on the company's expected future performance, in particular in earnings, dividends, and share prices.

The annual report does contain a large volume of the information used in the growth forecast, although direct time series extrapolation of financial results is not practiced.

Forecasts of a company's growth prospects are based on future expectations about the economy as a whole, the industry in general, and only thirdly the company in particular. The annual report provides an information base at this third level. Specific information in the annual report is used to forecast individual components of the earnings computation, for example, the fixed assets base is used to calculate the expected depreciation charge.

(ii) Significant financial market factors.

The focus is on identification and evaluation of those factors which are perceived to influence the market's assessment of the company. For example, close attention is paid to possible takeover potential, including speculation.

Identification and evaluation of significant financial market factors requires the analyst's understanding of the workings and psychology of the market. Focusing on the function of the annual report in this context thus requires an understanding by the analyst of the use made of the annual report by other market participants. Analysts also strongly believe in a concept of 'mass psychology' of the market where good news in a bullmarket will be more favourably received than the same piece of information is a bearmarket. Expected market reaction to annual report information is thus partially modified for the current market situation.(17)

Analysts invariably compare their own forecast, after analysis of the annual report, with that of the average of all brokers, as well as the forecasts of some individual brokers. Any discrepancies are reconciled by an attempt to obtain information from individual brokers as to the assumptions underlying their forecasts. This attempt often involves rather lengthy and detailed discussions.

(iii) Investment parameters.

Particularly considered are the dividend and share price yield sought for the individual company, in conjunction with the acceptable risk. Risk/return evaluation is carried out periodically rather than each time an investment recommendation is made. This evaluation is reviewed periodically, generally at quarterly intervals.

Because of the relative size of the investor (associated with a strong cash inflow) and the size of the domestic share market, cash flow constraints for domestic share investments do not exist for this investor. This is particularly so because of corporate policy not to get into a position of control/significant influence over the investee. The problem is rather one of lack of acceptable domestic share investment opportunities. The absence of comparative analysis between different investee companies was therefore not surprising.

With respect to investment parameters, the information in the annual report is only indirectly recommendation specifc. Return sought, and level of risk perceived for an individual company is to some extent determined by the company's performance history. An evaluation of company performance, as pointed out earlier, is largely carried out through an analysis of the annual report.

(iv) Investment strategy.

Investment strategy is considered in terms of short, medium, and long term focus. The investor, although being basically a long term investor, is very conscious of profits from short term trading activity, as well as profits from being caught up in takeover battles.

Short/medium/long term investment strategy recommendations are made on the basis of two aspects, (i) share price behaviour expectations, and (ii) timing of company performance expectations. As to share price behaviour expectations, information in the annual report is used via the expected effect on aggregate market valuation and behaviour. With regard to timing of company performance expectations, annual report information is only of limited use. The analyst does obtain very little information from the annual report as to the timing within the next twelve months of company performance expectations.

Actual investment decisions are at times made on criteria other than those outline above. Two examples should illustrate the point. A disinvestment recommendation was not acted upon because of the business which did flow from the investee company to the investor. In another case a disinvestment recommendation was not acted upon for 'personnal' reasons at a senior level.

Concluding remarks

This paper provides a descriptive account of a real-life situation, building a bridge between efficient markets studies and questionnaire surveys. The purpose was to investigate how accounting information and information from other sources, including the interaction between information from various sources, is used in the share investment decision process.

Despite the extensive use made of all information sources, the receipt of the annual report does however represent the major routine information event over the financial year. The use made of the annual report, and thus its significance as a major information source does however change during the year. At times it is used as a primary source of information while at other times it is used more in a confirmatory role. Furthermore, the annual report does not only act as a source of information to an inquiry but also provides the stimulus for identifying questions to be pursued via other sources. However, to view this changing role in terms of cyclical occurrences over a year would be an oversimplification.

The choice of subject for this case study was intentionally biased towards an investor with a stated commitment towards fundamental annual report analysis. This bias was considered necessary because of the focus of the study. The focus was to gain a qualitative understanding in a particular situation rather than a quantitative understanding of general tendency for all participants in the market.

The findings in this study relate to a particular institutional investor. Based on subsequent discussions with other analysts, these findings are, however, also considered relevant to other institutional investors which have a similar commitment to, and engage in, fundamental analysis. The findings are likely to be less relevant to investors which do not have such a commitment.

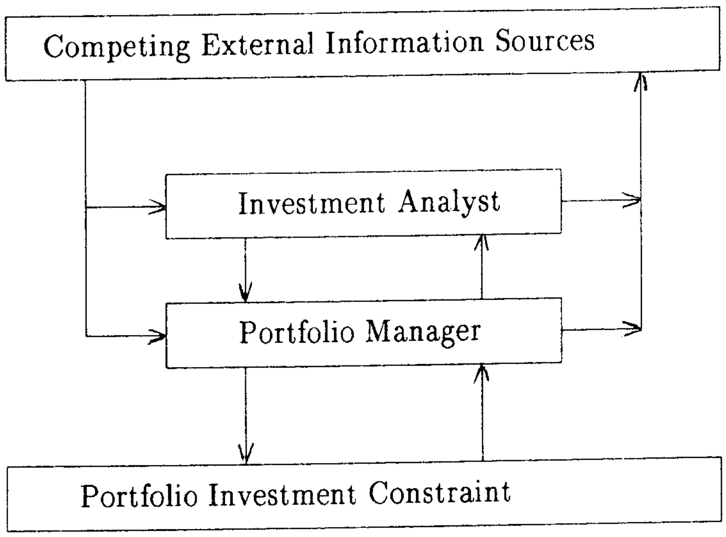

Figure 1. Information flow and feedback

FOOTNOTES

1. See for example Lincoln & Guba (1985) for an extensive treatment of 'naturalistic inquiry'.

2. See Libby (1981) for a summary of HIP research in accounting.

3. Refer to Cyert and March (1963) for a discussion of this focus.

4. See, for example Ball and Brown (1968)

5. See for example Anderson (1979,1981) , Arnold and Moizer (1984), Baker and Haslem (1973), Chenhall and Juchau (1977), Chang and Most (1980), Epstein (1975) and Lee and Tweedy (1981).

6. This study addresses to some extent some of the problems outlined by Hines (1982).

7. See for example Ahlers (1977) and Finn (1981).

8. These orientations are used as focus of description in the paper rather then as hypotheses to be tested in the conventional sense.

9. See for example Hagg and Hedlund (1979) and Mintzberg (1979) for a discussion of the suitability of the use of case studies. Furthermore, Campbell (1979) states that the dominant mode of study in some areas of social science 'remains the intensive study of a single foreign setting by an outsider ...'. He also refers to his earlier stance on 'the One-shot Case Study' (Campbell & Stanley, 1966) as 'my earlier dogmatic disparagement of case studies'.

10. For example Campbell (1979) argues for the complementary nature of qualitative and quantitative knowledge.

11. See for example Bouchard (1976), McCall and Simmons (1969), Peak (1966), Weick (1968) for a discussion of direct observation as a research method.

12. See for example Lincoln and Guba (1985) for a discussion of the adaptation of the Glaser and Straus (1967) constant comparative method.

13. For confidentiality reasons the identity of the investor cannot be disclosed.

14. See Patton (1980) for a discussion of the credibility of sampling strategies, including 'purposeful' sampling.

15. See Newell and Simon (1972) and Connolly (1977) for a discussion of these respective concepts.

16. Analysts were however acutely aware not to fall foul of insider-information/trading legislation.

17. Several analysts expressed the opinion that the ignoring of market psychology is a deficiency of efficient market studies.

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