Security and Information Systems:  
Interpreting the Collapse of Barings Bank

This case study reviews the violation of internal organizational controls by an employee to gain undue advantage. It stresses the importance of instituting informal controls if computer crime situations are to be adequately managed. The security issues arising from the misuse affect information systems integrity, formal and informal control mechanisms, and organizational cohesion in terms of culture. The lack of effective information system management that addresses each of these issues presents a compelling drama for IT professionals to learn from.

INTRODUCTION

The collapse of Barings Brothers & Co. (BB&Co), an established and well-respected pillar in the banking industry, by a single rogue trader shocked not only the financial community, but also the entire business world. Nicholas Leeson, the golden boy who made almost £30 million for Barings in 1994 alone, pushed his company with assets of £5.9 billion and equity of £309.4 million into bankruptcy in 1995. Leeson had apparently flouted rules of financial propriety to gamble with the bank's money and lost. At the time of Barings’ collapse, his losses from criminal derivatives trading on Barings’ funds amounted to £827 million, more than 100% of the bank's capital base (IBCA report, 1993). Public and private authorities struggled to make sense of the scandal in their search for accountability. Most perplexing was the fact that such improper business practices as engaged in by Leeson could occur in an industry that was supposed to be regulated by control mechanisms with built-in redundancy, which included internal audits, external audits, and regulatory agencies.

The Crime

After losing £126 million in Nikkei futures and Japanese government bonds on 23 February 1995—in addition to the £701 million that Leeson already lost secretly over the previous two years—he fled to Germany. He realized that he could no longer keep from his employers the magnitude of his losses. As the General Manager of Barings Futures Singapore Pte , Ltd. (BFS), an indirect subsidiary of BB&Co, Leeson had abused his office within the company to assume highly risky positions with the bank’s own funds. He managed to hide his losses in a secret account that he created in Barings’ accounting computer systems, the notorious Account 88888, but his losses inevitably grew too large to be contained in the account.

News of BFS's exposure filtered to the market over the weekend, and when the market opened on 27 February 1995, BFS was unable to pay the margin call for 23 February 1995. At that time, officials from the Singapore International Monetary Exchange (SIMEX) petitioned the courts to place BFS under judicial management.
Leeson's crime is broadly classified as an economic crime; it falls into the narrower category of "white collar crime" because the perpetrator was in a professional position. (Edelhertz 1970, p.13) Moreover, Leeson committed a “computer crime” because of his use of the company’s information systems to execute illegal trades.

**Issues at Play**

Many observers point out that the environment within the Barings group of companies (hereinafter, Barings or the Group) headed by BB&Co at the time Leeson was hired allowed the seeds of disaster to be sown. The London's financial market was undergoing the Big Bang, a Tory government initiative to deregulate the financial services industry after the American model. It was hoped that deregulation would allow British banks such as Barings to compete with the likes of Merrill Lynch and Morgan Stanley, two American powerhouse investment banks.

Ironically, the beginning of the end for BB&Co started with the Big Bang, which was supposed to usher in an era of reinvigorated British financial concerns. The City saw a frenzied scramble by the larger-capitalised banks to find partners among existing brokering and jobbing firms (Rawnsley 1995). The management at Barings decided to create its own brokering subsidiary, Barings Securities, Ltd. (BSL), and consequently an organizational restructuring became necessary to accomodate the new subsidiary. It was amidst the restructuring that the formal control mechanisms governing Barings’ business processes were relaxed. Leeson discerned these fissures in the pillar that was BB&Co, and he attempted to exploit them for his own ends. He saw loopholes in the organizational reporting structure, the control mechanisms, and the company’s information systems.

The collapse of BB&Co presents a rich case study that cuts across several disciplines. Some issues that have come to the fore include the appropriateness of a company’s organizational structructure, business law and ethics, and the effectiveness of an organization’s information systems (IS). The other issues certainly contributed to the collapse, but the organization’s IS was pivotal in bringing Barings to the brink of collapse. The manipulation of data that was communicated and distributed among the top management lulled everyone into a false sense of security and optimism. Clearly, the company’s IS failed to intermediate the correct information that could have prevented disaster.

**ORGANIZATIONAL WEAKNESSES AT BARINGS**

After deciding to develop its own brokering subsidiary based in Asia, BB&Co officials formally approached Christopher Heath in May 1984, a partner at Henderson, Crosthwaite & Co., with an offer to head a new brokerage firm under Barings' name and staffed by his team at Henderson Crosthwaite.

Under Heath's leadership, an overtly aggressive culture was created at BSL, which would prove difficult to assimilate even years after his departure in 1993. Large numbers of employees within BFS were brought up in the brokering world under his wing and maintained many of his views. This exacerbated the cultural gap between BB&Co’s
conservative world of merchant banking and the more opportunistic environment of brokering.

**Organizational Restructuring**

Due to the divergent cultures between BSL and the rest of Barings, the Asian subsidiary was permitted to operate at arm’s length from Baring’s central hierarchy. The autonomy granted to BSL, however, was not well-utilized by Heath and his cadre of followers to institute the formal control necessary to ensure against financial impropriety.

Peter Norris, a BB&Co director, alerted both Peter Barings, BB&Co’s chairman, and Andrew Tuckey, BB&Co’s deputy chairman, to the lack of formal controls at BSL. Tuckey subsequently insisted that Norris be given a mandate to review BSL’s affairs and make a formal report back to Barings’ board of directors. Heath was forced to acquiesce to the investigation (Rawnsley, 1995, p.95).

Not surprisingly, the Norris report highlighted the absence of controls. There was no business plan or strategy and no effective control system or budgets. The report concluded with recommendations for a restructuring. BB&Co would provide a cash injection of £45 million for the restructuring, and after three years BB&Co and BSL would be merged into a consolidated financial services firm with the former specializing in corporate finance and the latter in brokering. The new entity would be called Barings Investment Bank, or BIB (Rawnsley, 1995, p.96).

In September 1992, Norris was made Chief Operating Officer of BSL (Bank Report, para.2.15) and the restructuring began immediately. By March 1993, 10 percent, or 200 jobs, were eliminated, and Heath himself was forced to resign. Norris was appointed Chief Executive Officer of BSL.

**Matrix Structure**

Norris’ restructuring called for the implementation of a global matrix organizational structure. Profit and responsibility would be allocated on a product basis but with local office management having an important role in holding together the office infrastructure. Its intention was to co-ordinate product activities on a global basis combined with decentralized authority (Bank Report, para.2.22). The matrix structure was intended to clarify the chains of command, but the new reporting lines and responsibilities were neither perceived to be clear by many, nor were they fully understood (Rawnsley 1995, p.133).

There is nothing inherently wrong with the matrix structure as a form of management control, and it is not unusual in international banking and securities firms. However, a matrix structure did assume high levels of integrity from its employees since the dual chain of command presented an opportunity for employees to play off one supervisor against another. This is apparently what Leeson did as General Manager of Barings Futures Singapore (BFS), a subsidiary of BSL. Under the matrix organization of the new BIB, Leeson was supposed to report on BFS operational matters to the team of James Bax and Simon Jones, BSL Regional Operations Managers for South Asia, and on matters relating to the Financial Products Group (FPG) division to Ronald Baker, another BB&Co director.
**Formal Control System**

There were two types of formal control in place at Barings: internal and external. Neither, however, prevented Leeson from defrauding his employers. This was due to outright incompetence on part of those who were to perform the control function over Leeson’s derivatives trading. Both Ronald Baker and Mary Waltz, head of the BIB Equity Financial Products department within FPG, had limited experience in equity derivatives (PW Report, para.4.26) and had only a conceptual understanding of Leeson's business; they most certainly were not familiar with the technical aspects of Leeson's trading activities (PW Report, para.12.22). According to the Singapore investigators, had Baker and Waltz understood more, they should have realized that the increasing levels and consistency of profits reported by Leeson from arbitrage activities could not be true and should have questioned whether Leeson had engaged in improper activities (PW Report, para.12.23). Unfortunately, their ignorance of derivatives trading led Judith Rawnsley, a former Barings employee, to observe: "Leeson himself was subject to little management control and was to a large degree a law unto himself" (Rawnsley 1995, p.158).

**Internal Controls**

One fundamental principal in establishing internal controls for auditing purposes is segregation of duties. It is important to segregate the areas of revenue generation, or custody of assets, from record keeping. This principal is extremely important because it prevents a single individual from committing a misappropriation of company assets or revenue and then concealing the defalcation by altering the records. The Auditing Standards and Guidelines suggest that the segregation of responsibilities be the primary means of control over those responsibilities which would, if combined, enable one individual to record and process a complete transaction.

Although Leeson was only supposed to organize the settlements and accounting departments when he was dispatched to the Singapore office, he managed to become a SIMEX floor trader as well. His being given responsibility for both the front office—where the trading was executed—and the back office—where trades are processed and reconciled in settlements—allowed Leeson to render the formal internal control procedures ineffective.

There was even confusion over who controlled Leeson's proprietary trading. Mary Walz, Global Head of Equity Financial Products, was responsible for the equity financial products. She saw Fernando Gueler, Head Proprietary Equity Derivatives Trader, BSJ, as being responsible for Leeson's intra-day activities as Leeson's proprietary trading was booked in Japan.

However, according to Gueler, Ronald Baker, Director of BB&CO, Head, Financial Products Group, BIB, had told him in October 1994 that "Nick does not report to you. Your job is to focus on Japan and Nick will report to London". Gueler's understanding of this was that Walz would be responsible for Singapore, which was denied by Walz.

**Internal Audit.** James Baker was assigned the primary responsibility for the internal audit of BFS and reported directly to Norris. In July and August 1994, a BSL internal audit team
visited Singapore to perform a review of the operations of Barings' offices in Singapore and other nearby countries.

Broadhurst had suggested to the internal auditors that they should undertake some detailed testing of BFS's transactions and verify trades against primary documents. However, the auditors did not act upon his suggestion, but Broadhurst assumed that it had been done and all was well! (PW Report, para.5.28)

The audit report produced in October 1994 identified among other items, that there was a lack of segregation of responsibilities between BFS's front and back offices. The executive summary of the report began by stating "The audit found that while the individual controls over BFS's system and operations were satisfactory, there is a significant general risk that the controls could be overridden by the General Manager. He is the key manager in the front and the back office and can thus initiate transactions on the Group's behalf and then ensure that they are settled and recorded according to his own instructions" (Bank Report, para.9.21).

Even as late as 3 February 1995, Bax had sent a memorandum to Norris, Broadhurst, Baker, Ian Hopkins, Director for Group Treasury & Risk, BIB, and Anthony Gamby, Settlements Director of BIB and Director of BB& Co. in which he concluded that Leeson's responsibilities for front and back offices had to be split (Bank Report, para.7.79). However, Broadhurst told BoE investigators that "The concern was diluted by receiving an audit report from [C&L], I think on 3rd February, which was a matter of days after I received the original query, saying that they were happy" (Bank Report, para.7.80).

Hopkins had identified to Norris on 4 November 1994 that the existing risk committee was not working effectively and that there was a shortage of qualified credit personnel who understood the business being transacted. He also stated that there was a need to understand the underlying basis for the profit and loss attributed to the trading activities. This was followed by another memorandum dated 28 November 1994 where he stated that he found the internal controls "flaky" (PW Report, para.9.22).

Market Risk is headed by Helen Smith who reports to Hopkins. Although Smith was to monitor trading risk on a global basis, she did not directly monitor BFS's proprietary trading activities. This was because the trades executed by BFS were recorded in BSJ or BSL. For Leeson's positions, Smith relied on the information supplied by Vincent Sue, Risk Manager for BSJ. Sue, in turn, actually relied on information provided by BFS without performing any independent verification (Bank Report, para.2.70).

Smith maintained that it was not her responsibility to check on the accuracy of the information supplied to her and that Market Risk was entitled to rely on the effectiveness of internal controls to ensure the accuracy of such information (PW Report, para.7.4). Because of Market Risk's reliance wholly on information provided by Leeson, which was inaccurate, its control function was grossly ineffective.
There was no local risk control function for BFS when it was set up. However, following BFS's internal audit report recommendation in October 1994, BFS's trading was to be subjected to the scrutiny of an independent risk and compliance officer. Gordon Bowser, Risk Manager for Baring Securities Hong Kong Ltd (BSHK), was tasked to visit Singapore to assess the risk in the BFS business and then make regular visits thereafter for risk monitoring purposes (Bank Report, para.9.33).

However, it was only on 6 February 1995 that Anthony Railton, senior clerk for futures and options settlements was temporarily seconded to BFS to improve the flow of information on settlements from BFS (PW Report, para.8.32). On 17 February 1995, Railton informed Brenda Granger, Head of the Futures and Options Settlements in London that he could not account for a discrepancy of US$140 million between funds sent to BFS by other Barings companies and money in BFS bank accounts and funds with SIMEX (Bank Report, para.1.56).

Railton was instructed to try to resolve the discrepancy with Leeson, which he pathetically tried to do so until Barings’ collapse in the following week. Meanwhile, a further sum of about £200 million had been remitted from BSL, half of which was done in the last two days before the collapse.

External Controls
The Singapore branch office of Deloitte & Touche (D&T) were the external auditors of BFS from its incorporation in 1986 until 31 December 1993. D&T was aware of account 88888 during their audit of BFS during September 1992. D&T failed to review the nature, frequency and size of the items recorded in the account, which would have merited further investigation (PW Report, para.14.11). D&T only sought to obtain a confirmation of the balance shown in the account, which Leeson did by producing a false confirmation from Gordon Browse, Risk Manager at BSHK & Derivatives Controller in London. Bank Report, para.5.50) which was considered sufficient without verifying against the original signed confirmation.

D&T confirmed to C&L London that, amongst other matters, they had evaluated the adequacy of controls within the accounting system and identified that reliance could be place on these controls, that they had performed sufficient testing to provide audit evidence that internal control procedures were in place and were effective and that there were no weaknesses in the company's systems which were of sufficient significance to bring to C&L's attention (Bank Report, para.10.22).

C&L London placed reliance on D&T's opinion in their audit. (Bank Report, para.10.8) In the course of their audit work for 1994, C&L Singapore noted a discrepancy of about £50 million while attempting to reconcile BFS's general ledger balance and the balance for the same account as shown in SIMEX's combined margin and positions report (PW Report, para.14.20).

When this was first raised with Leeson, he claimed it may have been caused by a computer error. However, when the auditors pursued the point further, he claimed that it was a
receivable from New York trader Spear, Leeds & Kellogg (SLK). On 3 February 1995, Leeson presented to the auditors a fax message, supposedly from head of Barings' Financial Products Group (and one of Leeson's superiors) Ronald Baker, confirming the transaction and a fax purportedly from SLK managing director Richard Hogan acknowledging the receivable. It was later ascertained that the documents were forged, but at that time, the auditors appeared satisfied.

Khoo Kum Wing, a partner in C&L Singapore, highlighted to Andrew Turner, a partner in C&L London on 27 January 1995, about the SLK receivable, to seek his assistance to confirm with BSL that SLK was an on-going customer and is credit worthy (Bank Report, para.10.41). Broadhurst expressed surprise about the matter and asked Duncan Fitzgerald, manager responsible for the 1994 audit, to ensure that a rigorous audit of the balance sheet be carried out by C&L Singapore (Bank Report, para.10.43).

This was conveyed by Fitzgerald in a fax to Khoo. It also highlighted that BFS is largely operated by one person and therefore there will not be the same segregation of duties found in other companies (Bank Report, para.10.44). Khoo got his audit team to find out more about the trade but Leeson's three pieces of forged evidence to support his claims were considered sufficient. There was no review of the internal controls.

C&L's conclusion that "its control environment is satisfactory ...Internal control procedures in place are assessed to be adequate" (Bank Report, para.10.24), was commented by BoE as "on the face of it not readily compatible with the lack of segregation of duties" (Bank Report, para.10.25).

The external auditors failed to detect the losses hidden through false journal entries, fabricating transactions and writing options. They were easily deceived by Leeson's alterations to the books and records of BFS (Bank Report, para.5.42) because they had failed in the first crucial concept which underlies the selection and evaluation of evidence; the concept of quality of evidence (Hatherly, 1980). Hatherly mentions that auditors must assess the integrity of the directors and the risk of Director manipulation to assess the quality of evidence created by processes under the Director's control.

**Bank of England.** One glaring failure was the way Barings was allowed to overstep its capital restrictions. BoE is required to be notified in the event that a bank's proposed exposures will exceed 25% of its own or its group's capital base (Bank Report, para.11.8) under Section 38(1) of the Act.

On 29 January 1993, Geoffrey Barnett, Chief Operating Officer of BIB, wrote to Christopher Thompson, an official at BoE, explaining the difficulties which BSJ was having in complying with the 25% limit (Bank Report, para.12.45). In a subsequent discussion with him, Barings requested to go over the limit (Bank Report, para.12.47). Thompson granted an "informal concession" to exceed this limit with regard to the Group's exposure to the OSE (Bank Report, para.12.52), without reference to more senior management at the BoE. This "concession" was taken by Barings to apply to its exposure to SIMEX also (Bank Report, para.11.45).
The large exposures report submitted to the Bank for the fourth quarter of 1994 showed that the margins deposited with SIMEX, OSE and Tokyo Stock Exchange (TSE) amounted to more than 75% of its capital base in aggregate. This did not evoke any reaction from the Bank (PW Report, para.13.20). However, around 1 February 1995 (over two years after the issue was first raised by Barings), a written response was given to Barings enforcing the 25% limit and requesting that Barings "explore urgently whether it might be possible to reduce the exposure" (Bank Report, para.11.49). However, the exposures to SIMEX and OSE alone had already exceeded 100% of the Baring Group's capital! (PW Report, para.13.23).

In 1994, a limited scope audit was conducted covering segregation of client funds and client margins. Five violations were noted relating to improper segregation and computation of client funds to meet financial requirements, which was submitted on 16 January 1995 to BFS. These were explained by BFS on 30 January 1995 and 13 February 1995 to be caused mainly due to clerical oversight. According to SIMEX, Barings collapsed before further action could be taken (PW Report, para.15.22 & 15.23).

**Informal Control System**

Like the formal control mechanisms available to Barings, the bank’s informal control system consisted of internal and external processes. Like the formal system, too, the informal one also failed to detect wrongdoing on Leeson’s part.

**Internal Informal Controls:** Unlike Baker and Mary Waltz, Gueler had the experience in equity derivatives and understood Leeson's business and had detailed knowledge of the technical aspects of Leeson's trading activities. Gueler could have realised that the increasing levels and consistency of profits reported by Leeson from arbitrage activities could not be true and may have harboured questions whether Leeson had engaged in improper activities.

Gueler called Waltz during October 1994 highlighting that he could not understand the apparent profitability of Leeson's trading strategies. Waltz contacted Baker, who reassured Gueler with a fax containing one section of the draft internal audit report, the conclusion of which was "Nothing we have reviewed suggests that BFS is obtaining an unfair advantage by breaking SIMEX rules nor taking on positions in excess of limits." Baker then called him and said "Look, Fernando, we hear what you say, everything is OK in Singapore. Do not worry about Singapore" (Bank Report, para.3.62).

**External Informal Controls:** There is a strong sense of an informal system for communicating financial concerns between banks in the financial industry. We know that as a result of escalation of market concerns and rumours, a call was made on 27 January by the Bank for International Settlements in Basle, because it had heard rumours to the effect that the bank could not meet its margin calls (Bank Report, para.1.45). Rawnsley (1995, p.182) also mentions that William Phillips, Managing Director of Salomon Brothers, Hong Kong had also called the bank before the crash to express his
anxiety that either Barings or a client of Barings would be bankrupt if the Nikkei index were to fall.

Management was aware of the market rumors (Bank Report, para.1.45), but it seems that no attempts were taken to investigate the rumors. BoE claimed that they were completely ignorant about any problems with Barings until informed by Peter Baring himself.

INFORMATION SYSTEMS AT BARINGS

In order to execute and reconcile his illicit derivatives trading, Leeson committed what is commonly referred to as "computer fraud"—i.e. using a computer to obtain dishonestly property or credit or services or to evade dishonestly some debt for liability. Bainbridge (1993) identifies two types of activities common in computer fraud: data frauds and programming frauds. Leeson was guilty of both. He committed data fraud by altering, tampering, and suppressing both input and output data (as defined by Dhillon, 1999). As for programming fraud, Leeson had persuaded an unwitting systems consultant for BFS to alter the instructions in a software package that created financial reports to be sent to Barings headquarters in London.

Technical Control Systems

Modern trading operations are completely automated through use of computers, and Barings was no exception. Barings had invested millions of pounds into new computer systems that automated a great deal of the execution process and provided analysis of outstanding trades and positions (Rawnsley 1995, p.111) under Richard Johnston's guidance. Johnston was an accountant hired from Arthur Young to set up the risk control functions as he understood about derivatives (Rawnsley 1995, p.93).

Baker had told the BoE investigators the importance of controlling the information systems. He believed that his lack of experience in equity markets and the agency brokering of derivatives did not necessarily make him the wrong person for the job, but it made him much more dependent on the control and information systems, than he would otherwise have been (Bank Report, para.2.47). Although BSL's system was meant to enable information to be accessible from all locations, Leeson was able to conceal the existence of the account 88888 from Barings' management until 23 February 1995 (Bank Report, para.5.3 & 5.4).

Circumvention of the Computer Systems

Leeson was purportedly making millions for Barings by betting on the future direction of the Nikkei index. The truth, however, was that he was losing money. He hid the losses in a trading account, Account # 88888, which he managed to exclude from most daily reports and, thus, conceal his losses from the central hierarchy in London. He started trading only with client money, by the third quarter of 1993, he was entrusted with Barings' own funds. This allowed him to put Barings at risk which lead to its collapse.

Leeson had opened the account '88888' in July 1992. The account was designated as a "client" account, but it was described internally as an error account on BFS's computer
system, meant to record trading errors. Leeson, however, misused this account to create additional profits in the authorized "switching" accounts by "parking" losses in account 88888 as well as to take substantial proprietary positions (Bank Report, para.4.5). The reason he could easily manipulate the accounts was because he supervised both the front and back offices.

Leeson succeeded in keeping his activities from management and both the internal and external auditors by circumventing the accounting system and avoiding traditional audit trails. In July 1992, Leeson persuaded Dr. Edmund Wong, an unsuspecting programmer and IT consultant to Barings, to alter the software program so that it excluded account 88888 from all the reports sent electronically to London. (Bank Report, para.5.3). Leeson's manipulation of the BFS records also deceived SIMEX about the true balance on account 88888 by creating false journal entries, fabricating transactions and writing options. (Rawnsley 1995, p.169).

Until January 1995, margin calls for losses on account 88888 were met with funds provided by BSL and unclaimed surplus margin on its SIMEX positions. However, as margin calls to account 88888 started to increase substantially, Leeson had to find a way to reduce them as it became harder to finance his unauthorized trading activities. From 10 January 1995, Leeson instructed his settlements staff to make "adjustments prior" to the submission of the Position Change Sheet (PCS) to the clearing house (Bank Report, para.5.38). The effect of the falsification of the PCS allowed Leeson to deceive SIMEX as to the total amount of the margin requirement which by 23 February 1995, was understated by an amount in excess of £250 million! (Bank Report, para.5.40).

**Communication & Decision Making within Barings**

Communication is a vital process in every organisation. Beach (1970) estimated that top and middle-level executives devote 60 to 80 per cent of their total working lives to communication. The IS infrastructure at Barings, however, was not effectively utilized to intermediate the necessary information that would enforce the control mechanisms discussed previously. In hindsight, communication between London and the Asian subsidiaries was wholly inadequate.

For instance, the downturn of the Japanese stock market in the early Nineties, narrowing profit margins and cost of continued expansion had put BSL some £26 million into the red in its posted results for 1992. This was met with surprise at BSL and the senior management level and many senior executives overseas were worried because they had no idea what the company's real financial status was, largely because of Heath's policy of restricted access of financial information.

Dawson (1992, p.200) also extends an argument which may explain the lack of action on the part of Barings' management. She mentioned that "in times of crisis, people in formal organizations display increasing rigidity in their responses, and they are more likely to restrict information or to concentrate on what is well-known and understood rather than to search for new data or understanding."
Dawson also indicated that when "the need for information is greatest, the cause of the problem and ignorance, may preclude the parties from realizing until too late." This may also result in a situation of "false knowledge" in which the parties, oblivious of their ignorance, think they know all the parameters for the decision process.

CONCLUSIONS

Barings collapsed because Leeson successfully concealed the positions and losses recorded in account 88888 from everyone through deceit; from his supervisors who were responsible for internal controls, internal and external auditors and regulatory bodies in Singapore and the Bank of England. However, Leeson left a trail of breaches of control, trust and confidence and deviations from conventional accounting methods or expectations, which are tell-tale signs of his crime (Bologna, 1993).

The lack of separation of responsibilities did facilitate him in his deceit but it does not explain for the lapses in applying appropriate internal and external controls to the series of breaches that took place. This is nothing new as far as fraud is concerned because the Audit Commission Survey of Computer Fraud (1990), pointed out that "most frauds were made possible by the absence of basic controls and safeguards."

We know from this study that the primary reasons for the absence of applying the controls appropriately are attributed to "weaknesses" within the organisation, specifically:

- the reliance of control functions wholly on information provided by BFS although there was no independent monitoring and control of risk.
- the breakdown of dialogue between managers, which rendered financial controls ineffective.
- the belief that information technology can overcome basic communications problems in organisations and failure to understand that its effectiveness hinges on the characteristics of social organization and human behaviour.

It was believed that Barings' executives had allowed their judgement to be clouded also by Leeson's extraordinary profits. It has also been purported that information which questions or counters accepted viewpoints, or "conventional wisdom", is usually excluded from consideration by the power processes. This suppression of, or at least failure to call up, conflicting information may be done subconsciously because those involved may be so concerned with their own definition of the problem and possible solutions that they may not search for different definitions or solutions (Dawson, 1992, p.192). In any case, whether by true ignorance or subconscious denial, Leeson was allowed to continue on a self-destructive path that consumed not only himself, but also one that broke the bank.
REFERENCES

Auditing Guideline 204, “Internal Controls”
Bank of England, Report of the Board of Banking Supervision: Inquiry into the
Dhillon, G. Managing and controlling computer misuse. Information Management &
Hedberg, “Information System for Alternative Organisations” Using Information
Technology to Facilitate Industrial Democracy and Organisational Learning, CREST
Conference, Stoke on Trent, 1977.
Liebenau, J. and Backhouse, J., Understanding Information: an Introduction, Macmillan
Lim, C.S. Michael & Tan, N. K. Nicky, Baring Futures (Singapore) Pte Ltd: The Report of
the Inspectors appointed by the Minister of Finance, Singapore National Printers
Rawnsley, Judith, Going for Broke: Nick Leeson and the Collapse of Barings Bank, Harper
Reyes, Alejandro, Uncovering the Cover-up: Singapore Issues a Damning Report on the