

DIFFUSION OF FRAUD: INTERMEDIATE ECONOMIC CRIME AND INVESTOR DYNAMICS*

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Criminologists have studied the spread of fraudulent practices and techniques among perpetrators. This article attempts to contribute to the field by looking at the other side of diffusion, examining the spread of fraud among investors in a case of "intermediate fraud." Intermediate fraud occurs when fraudulent acts are committed in or by a legitimate business. Using comprehensive archival, interview, and survey data, we analyze a business that exhibited a two-stage pattern of intermediate fraud: It was created and operated as a legitimate business in the first stage, and then economic crimes were increasingly committed in the second stage. We use diffusion theory to guide our analysis, investigating the ways in which five factors—product attributes, buyer attributes and behavior, seller attributes and behavior, structure of the social network, and method of propagation—influence the adoption and diffusion of investments in oil and gas wells among a population of investors. The case of intermediate fraud is interesting because the factors that contributed to the success of the business in its legitimate stage are the same factors that contributed to the success of the fraud in its illegitimate stage.

KEYWORDS: Fraud, Diffusion, Intermediate Crime, Investors

Right after the First World War, Charles Ponzi offered Bostonians an opportunity to make quick money. An investor could turn \$1,000 into \$1,500 in just 45 days by purchasing promissory notes from Ponzi's firm, The Securities Exchange Company (Darby, 1998; Knutson, 1996). Ponzi told investors that he was using their money to arbitrage international rate differences in postal reply coupons; actually, Ponzi paid earlier investors when their notes matured with money obtained from later investors. "It was another instance of robbing Peter to pay Paul," wrote the bankruptcy

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referee (*In re Ponzi*, 268 F. 997, 1000 [D. Mass, 1920]). Ponzi was convicted of larceny, served time, and deported to his native Italy. He died penniless in Brazil, his only legacy the continual imitation of his fraud technique by generations of swindlers and the use of his surname to represent any (fraudulent) system of intercohort exchange, where earlier cohorts are paid with money obtained from later cohorts.

The story of the original Ponzi scheme suggests two ways of thinking about the diffusion of fraud. First, a specific fraud, such as Ponzi's fraudulent promissory notes, spreads through a population of victims as they invest. Second, a fraud technique, such as Ponzi's intercohort exchange system, spreads among swindlers as they copy it for their own use. The original Ponzi scheme also illustrates two ways that a fraud may spread among victims or a fraud technique among swindlers: Influence via social networks or by impersonal methods. For example, ethnic social networks played a part in the diffusion of Ponzi's fraud: Many investors were Italians from Boston's close-knit south end and learned about the investment opportunity from their friends and acquaintances (Knutson, 1996). Subsequent generations of swindlers copied Ponzi's fraud technique after learning about it from written materials (impersonal methods of influence) or from fellow swindlers (influence via social networks). As we elaborate below, combining the two ways of thinking about the diffusion of fraud and the two methods of influence yields a typology that may be used to organize the literature (look ahead to Figure 1).

Our study examines the diffusion of fraud among investors, investigating the extent to which investors were influenced by their social networks (social ties to the seller, or social ties to prior investors) or by impersonal methods of communication (direct mail, advertising, telemarketing cold calls). We rely mainly on an in-depth case study of a business organization that committed fraud (defined below) in the oil and gas exploration industry. Although it is not possible to generalize to a population from a single case, the strength of our approach is the selection of a "strategic case" (Merton, 1968:162–165) that enables us to investigate the inner workings of a form of economic crime Clinard (1984:142) calls "intermediate fraud." Intermediate fraud occurs when fraudulent acts are committed in or by a legitimate business. This form of economic crime is different from a "pre-planned fraud" (Clinard, 1984:142)—a business created and operated for the sole purpose of defrauding investors, such as boiler rooms (Stevenson, 1998), penny-stock companies (Griffin and Block, 2001), companies set up to sell phony investment schemes (Goldman, 1995; Shichor et al., 2001), and land fraud schemes (Paulson, 1972; Snow, 1978).

Clinard introduced the concept of intermediate fraud in a review of *The Phantom Capitalists* (Levi, 1981), but it has been neglected in criminology. Rereading the literature with this concept in mind, however, reveals that

DIFFUSION OF FRAUD

1603

many economic crimes are cases of intermediate rather than preplanned crimes. These cases appear in two forms. First, some cases of intermediate fraud exhibit a two-stage pattern: An enterprise is created and operated as a legitimate business in the first stage, and then economic crimes are increasingly committed in the second phase. For example, Home-Stake Oil began as a legitimate oil drilling business, but ended up stealing investor monies (McClintick, 1977). Similarly, Enron started out as legitimate energy business, but then began falsifying financial reports and corporate filings (Bryce, 2002; Fox, 2003; Schilit, 2002). Other examples include the drift into collective embezzlement by savings and loan officers (Adams, 1990; Calavita and Pontell, 1990; Calavita et al., 1997; Pizzo et al., 1989) and growing dependence on bribing government officials by leading defense contractors (Boulton, 1978; Jacoby et al., 1977). Second, other cases of intermediate fraud involve a subset of individuals inside a legitimate business who commit economic crimes on behalf of the organization. Examples include the group of sales personnel at Prudential-Bache Securities who committed financial fraud (Eichenwald, 1995; Sharp, 1995), forgery and bank fraud committed by leasing company directors (Gandossy, 1985; Weissman, 1999), and the creation of fictitious policyholders by insurance company managers and accountants (Blundell, 1976; Dirks and Gross, 1974).

The prevalence of intermediate versus preplanned frauds is unknown, but Merton (1968:198–199) argued that most legitimate business people commit white-collar crimes, such as fraud; white-collar criminality, he said, is the norm, not the exception. If Merton's argument is correct, it suggests that cases of intermediate fraud are not "deviant" or exceptional, but examples of a common form of economic crime. Ultimately, however, the justification of a case study is its theoretical significance (Becker, 1992; Walton, 1992). The theoretical significance of our case is the focus on the diffusion of fraud *among investors* via social networks, impersonal methods, or a combination of the two. The study of the diffusion of illegal practices *among perpetrators* has a long history in white-collar criminology (e.g., Sutherland, 1949), but the equally interesting question of diffusion of fraud *among investors* has been neglected. Extant accounts of frauds assume that frauds move through populations of investors but are largely silent on the mechanics and details of the actual diffusion process. The case study approach is an ideal method for revealing the mechanics and details of how fraud diffuses, such as the methods of diffusion, the timing of diffusion, and outcomes.

Our article is organized as follows. First, we propose a typology of the diffusion of fraud, and use it to situate our case study in the criminological literature. Second, we provide an overview of diffusion theory, which we use to guide the analysis of our case. Third, we introduce our specific case,

an organization known as Fountain Oil & Gas Company (Fountain), and we describe our multiple sources of quantitative and qualitative data on the company, its operations, and its investors. Fourth, we analyze the diffusion methods used in the spread of Fountain's investment, using both longitudinal data on timing of investments and survey data on a sample of investors. We discuss the reasons why social networks or impersonal methods may or may not be used in the diffusion process, and their effects on outcomes, such as loss of capital. We conclude with some implications for research in criminology.

A TYPOLOGY OF THE DIFFUSION OF FRAUD

Fraud is a type of "deliberately created ignorance" (Erickson, 1996:33). The legal definition of fraud (e.g., Lusk et al., 1970:139) is the intentional (as opposed to innocent) misrepresentation of a past or existing material fact (see, also, Edelhertz, 1970:12). The misrepresentation must create a *mistaken belief* in the mind of another person about the material fact. The person must justifiably rely on this mistaken belief (i.e., a reasonably prudent person could not investigate the truth or falsity of the statement of fact). The person must act on the untrue representation and do something he or she would not do otherwise. And the person must suffer the loss of something of value or surrender a legal right.

There are, of course, many different types and forms of fraud, and several bases on which to build a typology. For example, one could devise a typology on the basis of type of social actor—a corporation or an individual. Fraud can be committed by employees acting on behalf of their corporations or by individuals acting alone; similarly, the victims of fraud can be organizations or individuals. For instance, Prudential-Bache committed fraud against individual investors when the company's brokers intentionally misrepresented material facts about its oil and gas partnerships (Eichenwald, 1995; Sharp, 1995). General Electric and other electrical equipment manufacturers defrauded public and private utility companies when they fixed prices in the famous electrical equipment price-fixing conspiracy (Baker and Faulkner, 1993; Geis, 1967; Smith, 1961). Individual appliance-repairmen defrauded individual consumers when they overcharged for parts, charged for but failed to install new parts, or misrepresented the age and condition of used replacement parts (Vaughan and Carlo, 1975).

We propose a typology of fraud based on diffusion method (social networks versus impersonal methods) and diffusion population (spread among perpetrators versus among victims). This typology is illustrated in Figure 1. Types 1 and 2 in Figure 1 focus on diffusion of fraud techniques among perpetrators. In Type 1, illegal practices spread through a social

DIFFUSION OF FRAUD

1605

network of perpetrators as they communicate about opportunities for committing fraud, motives and justification for so doing, techniques for successful execution of the illegal action, and even estimates of the probabilities of being detected and prosecuted. Several studies illustrate Type 1, documenting examples of fraudulent practices and techniques that spread through social networks of perpetrators who learn from one another, modifying and applying these practices and techniques to new populations of victims (e.g., Calavita et al., 1997; Cressey, 2001:180–181). In Type 2, illegal practices spread among perpetrators as they learn about fraud techniques from accounts in the press, the media, the Internet, government documents, or other archival sources, or as part of the constitutive culture of dong business. Examples include learning phony residential land development in Arizona and Florida (Paulson, 1972; Snow, 1978).

Figure 1. Two Types of Diffusion of Fraud by Diffusion Method

		<i>Diffusion Method</i>	
		Social Networks	Impersonal Methods
<i>Diffusion Population</i>			
Diffusion of fraud technique among perpetrators	1	New perpetrators learn about fraud technique from contact with other perpetrators, or are trained by other perpetrators.	2 Perpetrators learn from written materials or observation about fraud technique and how to use it.
	3	Victims have social ties with perpetrators, or are influenced to invest via social ties with earlier investors.	4 Victims are influenced to invest by direct mail, advertising, or telemarketing cold calls.

Types 3 and 4 consider diffusion of fraud among victims. In Type 3, victims have pre-existing social ties with the perpetrators, or they are influenced via social ties with earlier victims. In economic sociology, making a purchase on the basis of a pre-existing social tie with a seller is called “within-network exchange,” while making a purchase on the basis of information received from a prior buyer is called “search embeddedness” (DiMaggio and Louch, 1998). The popular press is rife with examples of

Type 3. For example, “The first person Hugh Francis Rollins stole from, he says, was his mother, Thelma” (Lowry, 1998:1B). The investment banker’s mother, friends, neighbors, and 550 others had invested in a Ponzi scheme Rollins devised around financing government contractors. Ethnic social networks were the basis of diffusion of an alleged commodities fraud inside suburban Chicago’s Greek community (Kirby and Hanna, 1994). Similarly, the Foundation for New Era Philanthropy, a tax-exempt charity established in 1989, targeted Christian universities and charities in an alleged multimillion-dollar Ponzi scheme (Arenson, 1995; Duffy, 1995). In Type 4, the diffusion of fraud involves the decision to purchase on the basis of information received via impersonal methods, such as direct mail, advertising, or telemarketing cold calls. The “boiler room” is a classic example, where potential victims are contacted directly by telemarketers (Bass and Hoeffler, 1992; Stevenson, 1998).

Our research focus is the diffusion of fraud among investors, Types 3 and 4 in our typology (Figure 1). What is the prevalence of fraud incidents involving these two types? Is the use of social networks more common than impersonal methods, or vice versa? The Fraud Victimization Survey, a national survey of victimization by multiple types of personal fraud (Titus et al., 1995a; Titus et al., 1995b), provides some preliminary clues to the distribution across Types 1 and 2. Based on a random sample of the adult American population ($n = 1,246$), this survey uncovered a total of 1,911 fraud incidents. As shown in Table 1, about 30% of fraud incidents across all types of fraud involved the use of social networks, either direct social ties with the perpetrators or social ties to the perpetrators through third parties (e.g., a social tie with a prior buyer). About 70% of fraud incidents across all types of fraud involved impersonal methods, where victims or potential victims responded to direct mail, newspaper advertisements, or telemarketing cold calls. Of the multiple types of fraud examined in this survey, “fraudulent business ventures” is the closest to the type we study in our case, oil and gas partnerships, although this category includes a variety of types of business ventures. As shown in Table 1, about one of four incidents of fraudulent business ventures involved social networks; three of four involved impersonal methods. These survey data suggest that impersonal methods are more common than social networks in the diffusion of fraud among victims. Of course, there are caveats to this conclusion, due to the inherent limitations of the study design. For example, these data cannot tell us if a single method of diffusion (social networks or impersonal methods) or mixed methods of diffusion (social networks and impersonal methods) are used in the same fraud. Our strategic case allows us to explore the question of single versus mixed methods of diffusion in a longitudinal case of intermediate fraud.

DIFFUSION OF FRAUD

1607

Table 1. Diffusion Methods Used in Multiple Types of Personal Fraud, National Fraud Victimization Survey, 1991*

Diffusion Method	All Types of Personal Fraud	Fraudulent Business Ventures
<i>Social Networks</i>		
Social tie between swindler and target	26%	15%
Tie through third person	5%	9%
Total Social Networks	31%	24%
<i>Impersonal Methods</i>		
Direct mail	21%	41%
Newspaper	5%	21%
Telemarketing cold call	32%	15%
Other	12%	0%
Total Impersonal Methods	70%	77%
Total All Methods**	100%	100%

*Based on a random sample of the adult American population (n = 1,246), this survey uncovered a total of 1,911 fraud incidents.

**Columns may not sum to 100% due to rounding.

DIFFUSION THEORY: AN OVERVIEW

Diffusion is “[o]ne of the most pervasive processes in the study of social behavior,” (Coleman, 1964:492). The spread of ideas, attitudes, practices, traits, rumors, information, language, population, products, and services is studied in sociology, anthropology, communication studies, political science, marketing, and epidemiology (Rogers, 1995; Valente, 1995). Examples from criminology include the spread of laws, such as sexual psychopathology laws (Sutherland, 1950) and hate crime laws (Grattet et al., 1998), the diffusion of collective violence (Pitcher et al., 1978), the spatial diffusion of crimes (e.g., Gross and Hakim, 1982; Messner et al., 1999), and the spread of the practice of petty crime among high schoolers (Baerveldt and Snijders, 1994).

The classic diffusion paradigm emphasizes models of diffusion based on interpersonal or inteorganizational ties, where *social ties* among “adopters” and “nonadopters” drives the spread of an “innovation.” (“Adopter” is a general term to refer to a person who purchases, invests, accepts, or otherwise “adopts” an “innovation.” “Innovation” is a general term that refers to any product, service, idea, attitude, practice, and so on that is “new” to an adopter, whether or not it is “new” in an absolute sense.) For

example, Coleman et al. (1957, 1966) emphasized diffusion via direct interpersonal contact between physicians, arguing that physicians were influenced to start prescribing tetracycline (a new drug at the time) via discussions with physicians who had already adopted the practice. The interactions of adopters and potential adopters drive diffusion in a chain reaction or snowball process as the innovation spreads through a social network. Diffusion through networks creates the well-known “diffusion effect”—“the cumulatively increasing degree of influence upon an individual to adopt or reject an innovation, resulting from the activation of peer networks in a social system” (Rogers, 1983:234). For a marketer of a new product or service, the important stage in the diffusion process is the critical mass tipping point (inflection point) that occurs between 10% and 25% adoption. After this point, the diffusion process “takes off” and usually cannot be stopped (Rogers, 1983:245).

Social networks do not always drive a diffusion process, even though networks are emphasized in the classic diffusion paradigm. For example, over 50% of the doctors in the study by Coleman et al. (1957:1966) were *isolated* from the medical discussion network. Their peers, due to social disconnection, could not influence them. Rather, they “had to depend upon advertising and the drug salesman to be persuaded to use the drug” (Coleman, 1964:44). The adoption of tetracycline by isolated doctors is called “constant-source” diffusion (e.g., Coleman, 1964:495–500), which takes place “in the *absence* of any interpersonal contact whatsoever” among the adopters and nonadopters (Coleman, 1964:497; emphasis in original). Constant-source diffusion occurs when adoption is influenced only by external propagation methods, such as advertising, direct mail, or telemarketing cold calls.

Diffusion researchers have identified several factors that *promote* or *discourage* diffusion: (1) product attributes, (2) buyer attributes and behavior, (3) seller attributes and behavior, (4) structure of the social network, and (5) method of propagation. These factors apply to “innovations” of all kinds, but we confine our discussion to the market context in which our case exists, focusing on products (innovations), buyers (adopters), and sellers (members of a category in diffusion theory called “change agents”). We briefly define these factors below, adding how they may influence the diffusion of economic crime.

Product attributes. Attributes of a product influence the rate of diffusion. For example, a product is more likely to diffuse if it has advantages over competing products, it is easy to understand, and it is compatible with one’s values and past experiences (Rogers, 1995). Diffusion might not

DIFFUSION OF FRAUD

1609

start at all (or stop prematurely) if an innovation is technologically inefficient or inferior. A change in law, custom, or taste might force the discontinuance of an innovation (e.g., Rogers, 1995:182–186). A fraud is an intentional misrepresentation of material facts (see legal definition above) that creates the “mistaken belief” that a product or service is not fraudulent. Hence, a perpetrator strives to create the appearance that a product or service is beneficial, to make the offer easy to understand, and to demonstrate how the product is compatible with a buyer’s values and experiences. For example, it is well known that fraud perpetrators overstate the potential for gain, and understate the risks of loss. Perpetrators of an “intermediate fraud” (such as our case) are especially able to manipulate appearances because some of their operations are legitimate and legal, and it is often impossible for a seller to discriminate between legitimate and illegitimate offerings.

Buyer attributes and behavior. The role of the buyer (i.e., adopter) in the diffusion process is a major focus of research, and so we know a great deal about buyers (Rogers, 1995:252–280). We know, for example, that potential buyers are likely to purchase early if, compared with later buyers, they have more years of education, higher socioeconomic status, greater ability to cope with uncertainty and risk, higher intelligence, better ability to deal with abstractions, and stronger aspirations for upward mobility (Rogers, 1995:269–273). Common wisdom holds that educated investors are “too smart” to be swindled. Titus et al. (1995b) arrive at a different conclusion, based on data from the Fraud Victimization Survey: “Education does not appear to confer the protection that might be expected in a type of crime that calls for a battle of wits (rather than a physical confrontation) between victim and assailant. This being the case, for an individual to believe that more education means greater ability to deal with con artists could prove a costly supposition” (p. 56). Upwardly mobile adopters, Rogers (1995:269) observes, “may be using the adoption of innovations (e.g., speculative investments) as one means of getting there.” Those with the profile of an early adopter make excellent targets for purveyors of fraudulent investments.

Seller attributes and behavior. The role of the seller is a major focus of diffusion and marketing research. Therefore, we know a great deal about the effect of seller attributes and behavior on diffusion (Rogers, 1995:335–370). For example, a seller’s success is positively related to such factors as the extent of contact with clients, empathy with clients, homophily with clients, and credibility with clients (Rogers, 1995:369–370). A seller can manipulate these factors to induce purchase. For example, sales trainers teach salespeople to “mirror and match” the attributes, body language, and verbal style of potential customers

(Cialdini, 1993:173–174). Feigning similarity to make a sale may be unethical, but it is not fraud per se; fraud occurs only when all the elements of fraud are present (see legal definition above). Perpetrators of fraud use similar manipulative techniques, wielding social psychological “weapons of influence” (Cialdini, 1993). For example, swindlers of affluent victims emulate the attributes of potential investors by displaying the trappings of wealth and prosperity (e.g., Cialdini, 1993:220–229). This “impression management” (Goffman, 1970) cultivates the image of success commonly associated with high-status consumption (expensive cars, residence in posh neighborhoods, expensive offices at exclusive business addresses, etc.). The major swindles of this century used this fraudulent similarity technique, such as Equity Funding (Blundell, 1978), Homestake Oil & Gas (McClintick, 1983), and OPM or Other People’s Money (Fenichell, 1985; Gandossy, 1985).

Structure of the social network. A “complete” social network, where buyers and potential buyers are connected to one another, facilitates network diffusion. In contrast, an “incomplete social structure” (Coleman, 1964:495–514) slows or prevents spread. The fragmentary structure of sexual networks, for example, slows the spread of sexually transmitted diseases (Laumann et al., 1994:269–282). A common network barrier is a population broken into numerous discrete groups: many ties within each group but few or no ties between groups (Coleman, 1964:495–505). “Partially interpenetrating groups” (Coleman, 1964:505–515) are another type of incomplete social structure. These are “large groups in society that have limited contact with each other” (Coleman, 1964:505), such as age cohorts, religious groups, and school grades. Diffusion occurs more quickly within than between groups. For example, the practice of petty crime by high schoolers might spread faster within than between grades (Baerveldt and Snijders, 1994). The connectivity of a social network presents a dilemma to a fraud perpetrator. On the one hand, a fraud may spread more quickly and be more successful if it diffuses by word of mouth among buyers and potential buyers in a connected social network. Affinity fraud, for example, depends on a connected social network, where the perpetrator cultivates a trust relationship with a member of a targeted ethnic, religious, or occupational group, and then uses the first victim as a bridge to other members of the community. On the other hand, “network closure” can increase the probability of detection (e.g., Portes, 1994:430) because buyers can talk with one another about the outcomes of their purchases, share their suspicions with one another, and, if necessary, take collective action against a seller. An alternative strategy for a perpetrator, therefore, might be to promote an investment to *disconnected* buyers who

DIFFUSION OF FRAUD

1611

do not know one another and are therefore unable to communicate should any suspicions or problems arise.

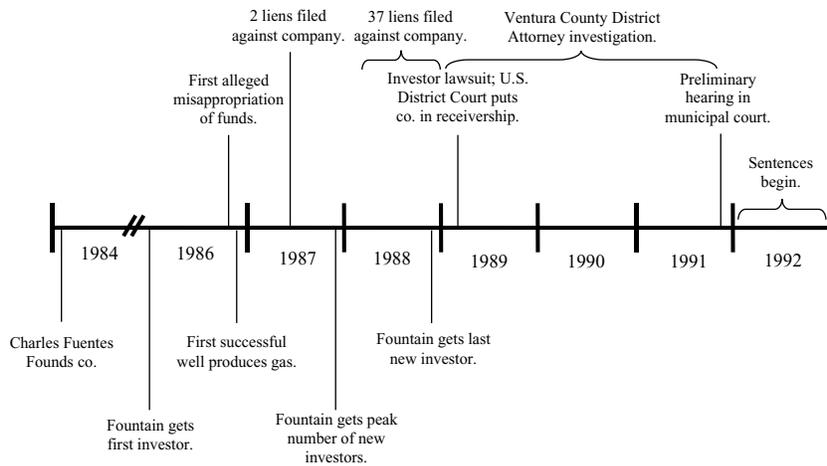
Method of propagation. The influence of buyers on potential buyers in social networks is the main method of propagation studied in diffusion theory, but there are other methods. For example, sellers may promote products to their direct social ties, selling to family, friends, and acquaintances (e.g., Frenzen and Davis, 1990). Or, sellers may use “impersonal methods,” such as direct mail, advertising, the Internet, and telemarketing cold calls, all of which are effective sales methods. Impersonal methods may or may not stimulate a “diffusion effect” (defined above). Telemarketing and direct mail usually do not (Basu et al., 1995.) Generally, legitimate businesses strive to stimulate word-of-mouth among buyers and potential buyers. Perpetrators of preplanned frauds may prefer to avoid diffusion among buyers. Operators of a boiler room (Stevenson, 1998), for example, may employ a short-term fly-by-night strategy where they set up a temporary facility, sweep through the community, defraud a number of victims, close shop, and escape before the authorities close in. American Inventors Corp., a Massachusetts “inventions promotion” company that claimed to provide amateur investors with customized feasibility studies, tailored patent application services, and intensive marketing to manufacturers (Graham and Hanchett, 1999), appears to have avoided diffusion through buyers’ social networks. The firm allegedly used the same “boilerplate” materials for every invention submitted by thousands of inventors. To prevent communication among buyers and potential buyers, employees of the firm were instructed to “screen incoming inventors against their existing databases and reject any applications from relatives and family members of existing clients” (Graham and Hanchett, 1999:A22). Whether perpetrators of an intermediate fraud prefer impersonal methods, such as direct mail or telemarketing cold calls, is an open question.

STRATEGIC CASE: FOUNTAIN OIL
AND GAS COMPANY

Our strategic case is an oil and gas venture that began as a legitimate business and then, after a period of time, increasingly committed financial fraud: Fountain Oil & Gas Company (Fountain). Figure 2 presents a timeline of key events in of Fountain’s history. Fountain operated in California during the late 1980s. According to company documents, the eldest of three brothers, Charles Fuentes, who was chairman of the board and president, owned Fountain. (“Fuente” is Spanish for “Fountain,” hence, the company name). Charles ran the business with younger brothers James, executive vice president, and Kenneth, senior account manager.

Charles had significant experience in the industry. Prior to founding Fountain, he managed an oil and gas lease-sale program for Northern Pacific Gas and Oil, Ltd., and he sold oil and gas leases for United Arctic Oil, Inc. of Westwood, California. James and Kenneth had sales and management experience in unrelated industries. The brothers lived in Westlake Village and Thousand Oaks in Ventura County, California, close to Fountain's main office in Westlake Village. The company also maintained a field office in Sacramento Valley, the location of Fountain's oil and gas wells.

Figure 2. Key Events in the Career of Fountain Oil & Gas Company



The management of the company included a petroleum geologist with seven years of experience in oil and gas exploration in Sacramento Valley. The geologist was responsible for developing and evaluating new exploration opportunities. An operations manager with nine years of experience was responsible for all operational matters (such as negotiating with the purchaser of oil and gas, Pacific Gas & Electric). An engineering manager with 25 years of engineering and geological experience was responsible for all on-site drilling operations. A manager of lands with an accounting background was responsible for analyzing and acquiring oil and gas properties. The management group supervised and worked with a staff of sales representatives, telemarketers, accountants, clerks, secretaries, receptionists, and others. About 15 to 20 people were employed by Fountain at its largest size. Given turnover, we estimate that about 40 to 50 people had worked for the company at one time or another. Fountain's

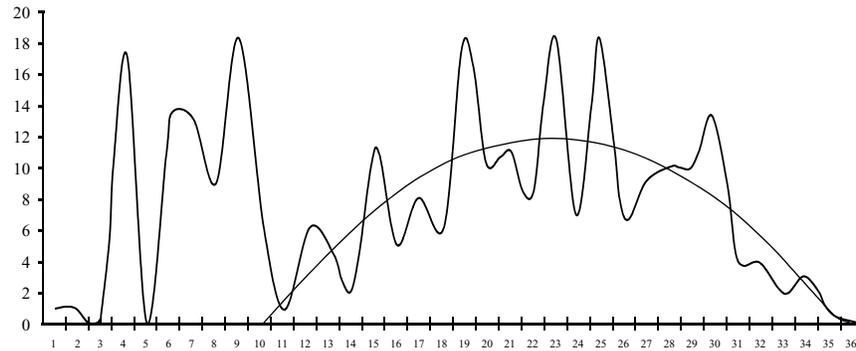
DIFFUSION OF FRAUD

1613

size is typical of business establishments in the U.S. economy (Granovetter, 1984).

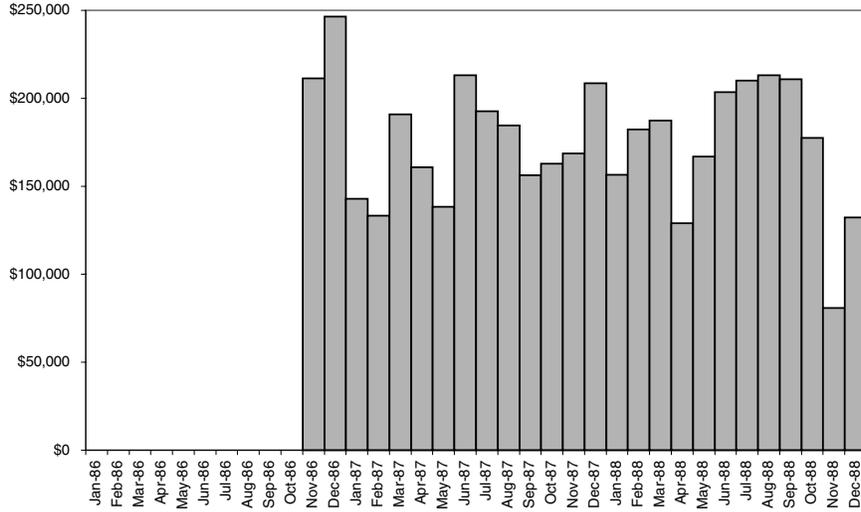
Like most firms, Fountain sought capital in the informal capital market. The company attracted its first investor in January 1986 and its last new investor in 1988. In total, Fountain attracted 240 investors who together provided about \$11.5 million of informal equity capital. (Figure 3, top panel, presents a line graph of the number of investors by month from January 1986–December 1988.) All were individual (private) investors, making investments on their own behalf. They were not acting as representatives or agents of organizations that make investments (i.e., institutional investors).

Figure 3. Fountain Oil and Gas Company Over Time: Number of New Adopters by Month, Market Value of Oil and Gas by Month, and Number of Liens Filed Against the Company by Month. (A) Number of New Adopters by Month. (B) Market Value of Oil and Gas Produced by Month. (C) Number of Liens Filed Solano, Glenn, and Colusa Counties of California, by Month

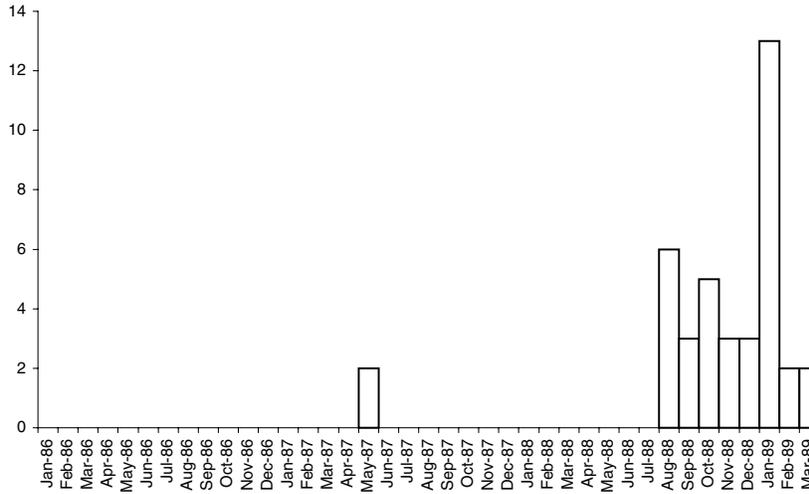


Fountain explored oil and gas exclusively in Sacramento Valley. Archival records show drilling activity at most of the 33 well properties eventually acquired by the company. In November 1986, Fountain's first successful wells (Reusser 1-A, Reusser 4, and Southam 4) began producing natural gas. Its biggest find, Strain Ranches 17-1, produced 1,505 MCF (thousands of cubic feet) of gas from May 1988 to December 1995. (Figure 3, middle panel, shows the market value, by month, of the oil and gas produced by Fountain from January 1986 to December 1988.) All told, 14 wells produced about 4,244 MCF of natural gas from November 1986 to

1614 BAKER AND FAULKNER



December 1995, according to records from the California Department of Conservation, Division of Oil, Gas, and Geothermal Resources. The market value of this volume of natural gas was roughly \$7,214,000, using the



average wellhead price of \$1.70 per MCF. Fountain’s wells produced a negligible amount of oil.

Consistent with standard industry practices, Fountain organized each well as a separate joint-venture limited partnership in which an investor could “subscribe” by purchasing “interests” (units or shares). The company provided a detailed prospectus for each limited partnership, which

DIFFUSION OF FRAUD

1615

included such information as the geologist's report and recommendation, large-scale (1" = 18 miles) and small-scale (1" = 100') maps of the drilling site, the private placement memorandum, summary of the joint venture, terms of the offering, terms of the subscription, application of the proceeds, tax treatment, risk factors (such as the uncertainty of success, possible impacts of foreign competition, regulations, restricted transferability of the investments, and risks inherent to oil and gas operations), information about Fountain (such as history, management, resumes, properties, and possible conflicts of interest), the joint venture and drilling agreement, information about the leasehold, drilling specifications and costs, vendors (for engineering, geological, drilling, operator, and transportation charges), and an investor subscription agreement and representation letter. This letter expressly stated that the investor understood the speculative nature of oil and gas exploration, understood the merits and risks of the specific investment, knew that the investment could not be sold or otherwise transferred, and was financially able to assume the entire economic risk of the investment.

A string of dry holes caused growing financial distress. As described below, it was later learned that embezzlement of funds also contributed to financial problems. Without positive cash flow, the company could not finance new explorations. Eventually, Fountain stopped paying office rent and oil-field service contractors. Contractors removed their equipment and refused to take on new work. They filed liens against Fountain, shutting down the company and its operations. Our review of liens filed by contractors in the California counties of Solano, Glenn, and Colusa (predominant locations of the wells) shows two liens filed in May 1987, with the next filings in August 1988 (six liens). New liens were filed every month thereafter until March 1989. In total, 39 liens were filed against Fountain in the three counties. (Figure 3, bottom panel, shows the number of liens, by month, from January 1986 to March 1989.) The U.S. District Court placed the company in receivership in March 1989 and appointed a receiver to operate the business.

A small group of disgruntled investors filed a complaint against Fountain in U.S. District Court. This action launched a routine investigation by the District Attorney of Ventura County. The District Attorney hired an accounting firm to conduct a "forensic accounting" of Fountain's financial records, a procedure used to investigate the possibility of business irregularities or fraud by tracing the sources and uses of funds (Kitchens, 1993). The investigation uncovered enough evidence to indict the Fuentes brothers. "The thrust of our case was. . .that money had come in from investors to be used for a specific well," Deputy Assistant District Attorney Rebecca S. Riley said. "In some cases it was diverted to other wells, or to other expenses of Fountain, or to specific personal purchases for Charles"

(quoted in Gorman, 1991a; Gorman, 1991b). The illegal diversion of funds is a common practice in the oil and gas industry. For example, one investor in our sample, an engineer with years of experience investing in oil and gas ventures, told us, “Today, with low oil prices, many independent oil companies are doing the same thing—which is fine if the DAs [District Attorneys] do not become aware of it. Many of us investors would be better off today if Fountain had been permitted to continue.”

The first instance of alleged fraud (a misappropriation of funds) took place toward the end of the company’s first year of operation (Gorman, 1991b). In 1992, Charles was convicted of grand theft by embezzlement, sale of securities without permission, excessive taking of funds, and filing false tax returns. He was sentenced to serve a total fixed term of five years and eight months at the California Institution for Men, and ordered to pay restitution of \$2,000 to each of five investors. James was convicted of using false statements in the sale of a security. He was sentenced to serve a total fixed term of 16 months at the California Institution for Men, and he was ordered to pay restitution of \$1,000 to each of ten investors. Kenneth was convicted of using false statements in the sale of a security, and he was sentenced to serve 365 days in county jail, with probation for 72 months. Fountain was not a “pre-planned fraud” (Clinard, 1984:142)—a business created and operated for the sole purpose of defrauding investors. This was the conclusion of the District Attorney’s investigators, the court-appointed receiver, and most of the investors we interviewed. Rather, Fountain was a legitimate business in which, after a period of operation, began to commit economic crimes.¹

After a group of investors filed a lawsuit against Fountain, the U.S. District Court put the company into receivership (March 1989). This and other legal actions provided publicly available data about Fountain and its operations. We obtained these public data from the District Attorney’s Office and the court-appointed receiver, including records of Fountain’s financial transactions, bank accounts, operations, and investors. We reconstructed the company’s financial books, using QuickBooks accounting software (doing what fraud examiners call “forensic accounting”). Other archival data include monthly production records for all wells operated by Fountain (provided by the California Department of Oil, Gas, and

1. Moreover, Fountain was not some “roving family” devoted to a peripatetic life of preplanned frauds. Charles Fuentes, for example, had been a resident of California for some years before founding Fountain. The three brothers remained in the area after Fountain was placed in receivership and during the many months it was under investigation. They even established a new business during this time, Ergo-Med Centers, and several investors from the oil and gas venture also invested in the new business. District Attorney investigators kept Ergo-Med Centers under scrutiny and never found any evidence of wrongdoing.

DIFFUSION OF FRAUD

1617

Geothermal Resources), copies of the search warrant and affidavit, transcripts of the preliminary hearing, records of liens filed against Fountain by suppliers (drilling contractors and oil-field services), and newspaper articles about the case. We interviewed investigators from the District Attorney's Office, the court-appointed receiver, and the forensic accountant for the DA's case, suppliers, a small sample of investors, and several fraud investigation experts. Some investors voluntarily mailed us copies of Fountain prospectuses, partnership agreements, correspondence from Fountain to investors, correspondence from investors to investors, and investor representation letters (wherein an investor represents to Fountain that he or she has sufficient assets to absorb the total loss of all monies invested, without causing financial hardship).

Our final phase of research was a telephone survey of investors. A full census would be desirable, especially for measuring the structure of the investor network; this was not feasible, however, given that the fraud episode took place ten years ago.² To ensure that we obtained the largest high-quality sample possible, it was important to employ professionals with expertise and experience tracking and interviewing respondents. Therefore, we contracted with the Division of Surveys and Technologies at the University of Michigan Institute for Social Research (ISR) to find and interview investors.

We designed our telephone survey instrument to elicit information on the barriers to diffusion: innovation attributes, structure of the social network, seller attributes and behavior, propagation methods, and buyer attributes and behavior. We repeated some questions from the Fraud Victimization Survey so that we could compare findings from our specific case with this national survey. ISR interviewers began administering the survey in fall 1998, soon after the first author mailed prenotification letters to investors at addresses confirmed or updated by ISR staff. ISR interviewed 72 investors, yielding a 30% convenience sample. Fortunately, we know a great deal about nonrespondents from our archival data, and so we are able to analyze possible nonresponse bias. The results of this analysis (Table 2) show that respondents and nonrespondents do not differ significantly along a number of critical dimensions: dollars invested, number of wells invested in, date of first adoption (first investment), and period of first adoption (below we describe the three periods of Fountain's career).

2. There are legal and ethical issues involved in the use of a list-style network survey instrument (which lists the names of all investors). In our preliminary interviews, investors told us that they were embarrassed by the loss and concerned about damage to their reputations. Before they would talk with us, they insisted that we did not reveal their names. A list-style network survey would have divulged their identities to hundreds of others, some of whom were professional colleagues.

Our convenience sample appears to be representative of the population of investors.

Table 2. Results from Analysis of Possible Nonresponse Bias: Sample of 72 Investors Interviewed Compared with 158 Investors Not Interviewed

	(1) Total Population of Investors (N = 230)	(2) Survey Respondents (n = 72)	(3) Investors Not Interviewed (n = 158)	(4) Significance
Average Total Dollars Invested	\$45,817	\$47,553	\$45,066	.80
Average Number of Wells Invested in	2.9	3.0	2.8	.76
Month of First Investment*	17.4	18.6	16.8	.07
First Adoption in First Period (January 1986–October 1986)	30%	23%	32%	.12
First Adoption in Second Period (November 1986–February 1988)	53%	58%	51%	.50
First Adoption in Third Period (March 1988–December 1988)	17%	19%	17%	.32

*Each month is assigned a value from 1 (January 1986) to 36 (December 1988).

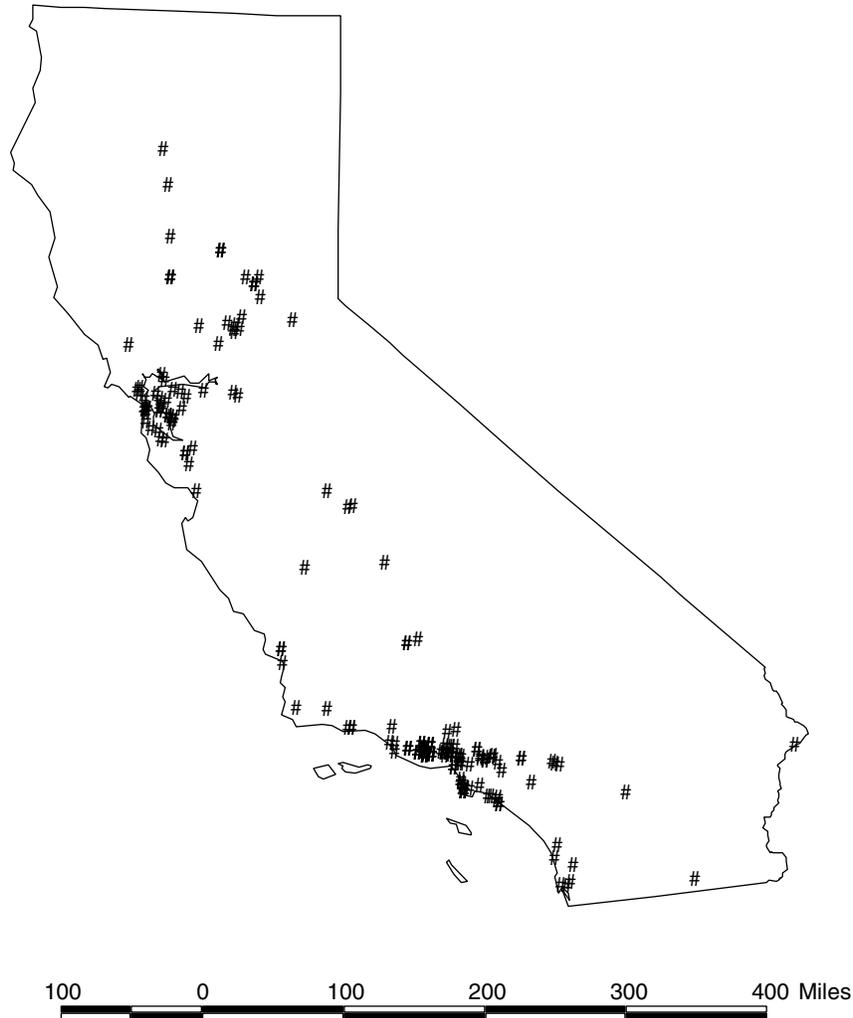
CHARACTERISTICS OF INVESTORS AND TIMING OF INVESTMENTS

Ninety-five percent of Fountain’s 240 investors resided in the state of California (Figure 4 shows the geographic distribution of investors in the state). On average, each of the 240 investors put about \$48,000 in Fountain, investing in three different wells (see Table 2). According to our survey data, most of Fountain’s investors were men (77%) in their early fifties (average age in 1988 = 53). Almost all were white (94%). Two-thirds (67%) were professionals (e.g., physicians, lawyers, CPAs), business executives, managers, business owners, or technicians. Their average occupational prestige score was 57 (S.D. = 13). Their median annual household income was \$83,750 (average = \$134,000). Three of four investors reported that they had no prior experience with investments in natural resources, such as oil and gas, before investing in Fountain.

We use the timing of each investor’s first investments (i.e., first adoption) in Fountain to represent the diffusion process over time. We mark this diffusion process from the date of Fountain’s first investor to its last, a 36-month period from January 1986 to December 1988. Fountain’s career exhibits three natural periods: startup struggles, success and growth, and crisis and denouement. These periods can be seen in the distributions of new investors by month of first investment (Figure 3, top panel). The first

DIFFUSION OF FRAUD

Figure 4. Location of Investors in California



period, January 1986 to October 1986, displays the volatility expected from a new-business startup. For example, Fountain enrolled over a dozen new investors in April 1986 but none in the following month. A dramatic event marks the end of the startup period and the beginning of the next: Fountain struck gas in November 1986. As shown in Figure 3, middle panel, Fountain’s wells continued to produce throughout Fountain’s career; some wells continued to produce well after Fountain was closed. (One of the court-appointed receiver’s tasks was to keep the business going for the

benefit of investors and creditors). The discovery and sale of oil and gas support the conclusions of the investigators and court-appointed receiver that Fountain began and operated as a legitimate business enterprise and was not a “pre-planned fraud” (Clinard, 1984:142).

Striking gas gave Fountain a persuasive story to tell prospective adopters. This event demonstrated their ability to discover, extract, and sell natural resources. Accordingly, the second period of Fountain’s career, November 1986 to December 1987, shows a fairly steady increase in the number of new adopters investing in the business (Figure 2, first panel). (The regularity of the second and third periods is shown by the inverted U-shaped curve in Figure 2. This curve represents the fitted values from a quadratic equation; $R^2 = .50$). This period of success and growth peaks in December 1987, marking the transition to the third period, crisis, and denouement.

SOCIAL NETWORKS VERSUS IMPERSONAL METHODS OF COMMUNICATION

Diffusion theory, as discussed above, makes a major distinction between two methods of communication: social ties versus impersonal methods. Social ties include (1) direct personal ties between buyers and sellers, and (2) social ties between buyers and potential buyers. Impersonal methods of communication include direct mail, advertising, and telemarketing cold calls. In our telephone survey of investors, we explicitly asked about these sources of information.

Half of all investors used social ties and half relied on impersonal sources of information, as shown in the tree diagram in Figure 5. Telemarketing cold calls is the most frequent source of information for investors who did not use social networks, accounting for 38% of all investors (Figure 5). Fountain used the customary telemarketing practice of purchasing commercially available lists of affluent individuals, investors in other speculative ventures, and consumers of “big ticket” items. For example, as one investor told us, “The telemarketer got my name from a list of yacht and airplane owners.” Six percent of investors responded to direct mail and advertisements. For example, one investor told us he decided to invest after seeing Fountain profiled on the business and investment channel of a local television station. Seven percent responded to direct contact initiated by a salesperson with whom the investor did not have a previous social tie or prior dealings (“cold contacts”).

About 21% of investors relied on a preexisting social tie with the principals, sales representatives, or other employees of Fountain. For example, the owner of a local jewelry store, who was dating one of Fountain’s principals, invested over \$75,000. She said, “He showed me the paper reports

DIFFUSION OF FRAUD

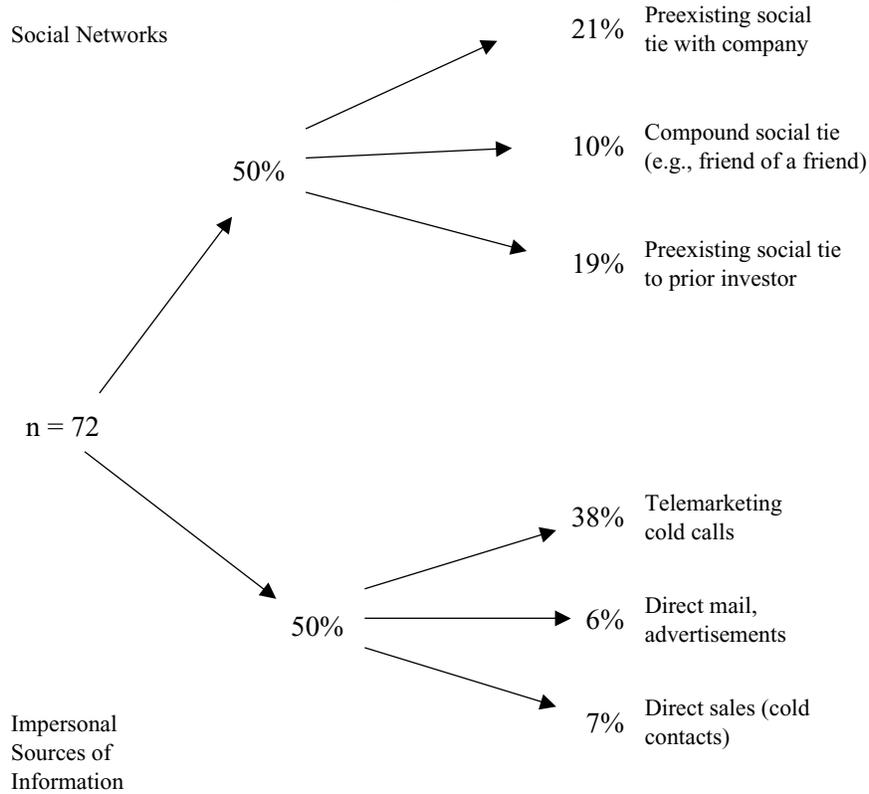
1621

and demographics. It was a great comeback on your money in 3–4 months. I took a trip to one of the sites, and, while I was visiting, they hit oil. Very exciting! It made me want to invest more.” A businessman who invested about \$90,000 had a son who represented the company: “Fountain Oil & Gas made contact with me through my son who was promoting the oil wells. It seemed like a good deal and I might make some money.” About 29% of investors relied on a preexisting social tie with a prior investor. A preexisting social tie with an investor could be a direct tie (19%) or a compound tie (10%). For an example of a direct social tie with a prior investor, consider the former airline president who decided to invest over \$100,000 because, he told us, “My son was involved [as prior investor] and [was] receiving good money back.” Similarly, an engineer in a defense company invested about \$15,000 after his friend invested: “A friend of mine invested and [invested again] after he made money. It looked good, a reasonable business thing because at that time the IRS code allowed for depreciation allowance.” A third example illustrates a compound social tie: A real estate developer invested \$32,000 because his broker recommended it, and his broker was a friend of a sales representative from Fountain.

Interpersonal communication (“word-of-mouth”) between previous buyers and potential buyers drives most diffusion processes (see cites above), accounting for the majority of adopters. In our case, however, less than one of three investors (29%) was influenced to invest on the basis of a social tie with a prior investor. We learned from our interviews, however, that Fountain actually tried to induce network diffusion. Sixty-one percent of investors were asked to refer the company to their social ties (see Table 3). Many respondents said that they were actually *pressured* (as respondents put it) to do so. Most refused. Only 24% of our respondents referred the company to anyone else, and these did so only after Fountain made the request for referrals. Without a request by Fountain, virtually no one would refer the company to others (only 1 of our 72 respondents put someone in touch with Fountain without an explicit request by the company). Of the 24% of investors who made referrals, each made only a single referral.

According to our interviews, almost all investors considered referring Fountain to others, but they decided not to because the investment was “too risky” or “might not work out for others” (31%); investments are a “private matter,” or “I don’t do such things,” or “I keep these things to myself” (30%); or, simply, “I didn’t trust Fountain” (23%). (See Table 3 for distribution of reasons why referrals were not made.) A physician we interviewed at length, who lost over \$200,000, described the mixture of reasons why he refused to refer Fountain to his social network:

Figure 5. Tree Diagram of Distribution of Social Networks and Impersonal Sources of Information for Sample of 72 Investors in Fountain Oil & Gas Company



[A Fountain principal] really wanted me to talk to my [medical] colleagues. I didn't want to involve my colleagues. I wasn't going to do that. They [my colleagues] would do their own thing, I would do mine. [In addition] I was always a little suspicious all the way along. These guys seemed a little slimy. The psychology of it; it was the superficial look of it, very successful and having all their money, their lifestyles. [And] there is the greed aspect; the great returns were attractive. My greed and their smooth superficial successful exterior overcame my suspicions.

LOSS OF CAPITAL AND INTERMEDIATE FRAUD

Only one in seven exploratory wells produces enough oil or gas to be

DIFFUSION OF FRAUD

1623

Table 3. Investor Referrals to Fountain Oil & Gas

Referral Patterns	Percentage
<i>Investor Referrals</i>	
Were you asked to refer Fountain to potential investors?	61%
Did you refer Fountain to anyone?	24%
<i>Reasons Why Referrals Not Made*</i>	
Too risky, might not work out for others	31%
Private matter, don't do such things, keep things to myself	30%
Didn't trust Fountain	23%
Never considered it, no one interested	14%
Other	3%

*Respondents could give multiple reasons. Percentages are based on the number of mentions of each type of reason why referrals were not made.

profitable, according to educational brochures published by the California Department of Conservation, Division of Oil, Gas, and Geothermal Resources (Hodgson, 1989:13). Most investors in Fountain should expect to lose their investments, according to this industry rule of thumb. Two-thirds of investors reported that they lost their entire investment (Table 4). Of course, there are several reasons for losing money in an intermediate fraud. One investor may lose money simply because a properly drilled exploratory well was a dry hole or produced a negligible amount of oil or gas. Another may lose because the management fees or sales commissions on a well were illegally raised beyond the amount specified in the investor contract, giving the appearance that the well was unprofitable and there were no profits to distribute to investors. Yet another investor may lose money because it was stolen outright by the company or illegally diverted to drill another well. Our discussions with the forensic accountant, the court-appointed receiver, and the District Attorney's investigators suggest that there is evidence of all of these reasons for losing money in Fountain.

Although we have detailed information about Fountain and its financial transactions, it is impossible to determine accurately which investors lost money for legitimate or illegitimate reasons. Even the forensic accountant did not determine which investors lost their money for illegitimate reasons, stopping his analysis once he accumulated enough evidence of wrongdoing to warrant an investigation. Nonetheless, our analysis of loss of capital by year reveals a pattern that supports the hypothesis that Fountain was a two-stage intermediate fraud. As shown in Table 4, 48% of the investors who made their first investment in 1986, Fountain's first year of operation, lost their entire investment. The first instance of alleged fraud (a misappropriation of funds) took place toward the end of 1986 (Gorman, 1991b). About 61% of the investors who made their first investment in 1987 lost all their money. In the final year of operation, 1988, 95% of the

1624

BAKER AND FAULKNER

investors who made their first investment that year lost all their money. Although investors lost money throughout Fountain's three-year life, they were concentrated in the latter half of this time—the period in which most of the illegal activities took place. Finally, a remark made by the court-appointed receiver supports a two-stage model: “The whole thing is tragic because the company started off with some good intentions and some good wells. But somewhere along the way, they went off on a very strange tangent” (quoted in Gorman, 1991b).³

Table 4. Percentage of Investors Who Did and Did Not Lose Their Entire Investment, by Year of First Investment, Sample of 72 Investors in Fountain Oil & Gas

Year of First Investment	Did not lose entire investment	Lost entire investment
1986	52% (11)	48% (10)
1987	39% (12)	61% (19)
1988	5% (1)	95% (19)
Total All Years	33% (24)	67% (48)

Pearson Chi-Square significance < .01.

NOTE: Numbers in parentheses are number of cases.

SUSPICION OF FRAUD

Thirty-eight percent of investors did not know that Fountain had committed fraud until they received the prenotification letter for our survey. They thought it was “just a failed business.” Although the majority of investors in Fountain (84%) eventually became suspicious of the company and its legitimacy, two-thirds of these never talked to anyone about their concerns. Of the few who talked about their suspicions, most talked to friends and family, and not to other investors. Moreover, most investors (73%) never contacted the police or other authorities because they did not know Fountain committed fraud (38%), “felt powerless” to do anything

3. The investors who lost all their investment did not tend to be small investors. There is no statistically significant difference in the average amount of money invested by those who lost all their investment compared with those who did not. Further, lack of drilling activity or a lower “hit rate” in 1988 cannot explain differences in the proportion of investors who lost all their money. Indeed, four wells drilled in 1988 produced gas, one of which—Strain Ranche17-1—was the company's all-time biggest producer.

DIFFUSION OF FRAUD

1625

about the incident (25%), or feared they would “look bad” to others (15%).

DISCUSSION

We used diffusion theory to guide our analysis of the diffusion of an intermediate fraud among investors. As defined above, diffusion researchers identify five factors that promote or discourage the spread of a product or service through a population: (1) product attributes, (2) buyer attributes and behavior, (3) seller attributes and behavior, (4) structure of the social network, and (5) method of propagation. Here, we discuss our results in light of these five factors.

Product attributes. Investing in oil and gas ventures is risky but offers high returns. Fountain’s investors perceived the risk/reward ratio to be favorable, leading to an average of three investments per investor. At times, however, the risk/reward this ratio appears to have been manipulated by Fountain when a principal or sales representative misrepresented the firm’s track record, overstated the potential for gain, and/or understated the risk of loss. As an intermediate fraud, like Fountain, combines legitimate and illegitimate activities, it would have been virtually impossible for investors to determine the true attributes of any given investment. The commingling of legal and illegal activities increases the “ambiguity of an action’s criminality” (Becker, 1998:125, 127).

The perceived favorable attributes of Fountain’s investment opportunities led to the decision to invest (adopt). However, product attributes did not facilitate referrals from prior investors to potential investors. Scarcity and competition can contribute to the unwillingness to tell others about opportunities. As Salancik (1995:346) notes, interaction does not take place when the “advantages of interacting are absent for one or another party or that some institutional constraints inhibit interactions.” For example, government attorneys seeking jobs in private law firms do not ask other government attorneys about job openings; indeed, they do not even discuss job hunting with their peers (Spector, 1973). One reason is “that if someone else knew that there was job in a particular firm, he might try to get this job for himself” (p. 227). Consumers of what economists call “congestible goods” (small bed-and-breakfast inns, unique restaurants, exclusive beachfront resorts) may not offer suggestions or respond to requests for recommendations due to concerns about overcrowding. Fountain’s investors refrained from “spreading the word” about lucrative investment opportunities because they perceived them to be scarce. Telling prospective investors about new opportunities might drive up the price of a scarce investment opportunity, or even squeeze out early investors who want to invest again.

Refusing to refer Fountain to potential investors is not a standard or universal characteristic of individual investment strategies. For example, investors in the common stock of a publicly traded company actively promote, “talk up,” and “tout” the stock to potential investors (see, e.g., Shiller and Pound, 1989). Doing so increases demand and raises prices. Because the secondary capital market is liquid and investors can freely transfer ownership of their stocks, the investor in common stock is able to “cash out” at a profit after prices rise. In contrast, a standard contractual provision called “limited liquidity” prevented Fountain’s investors from transferring or reselling their “units” to others. The only way to make money was profits from the well in which they invested, and the ability to invest in new wells. Due to congestibility, therefore, investors have an incentive to refrain from telling others about the investment opportunity. This is a key reason why only 29% of all investors learned about Fountain from prior investors.

Buyer attributes and behavior. Almost all of Fountain’s investors had the profile of an early adopter in a diffusion process. Their income, occupations, and age suggest that they had high education and socioeconomic status, the ability to cope with uncertainty and risk, intelligence, the ability to deal with abstractions, and aspirations for upward mobility. In other words, they had the money, the right psychological makeup, and the motivation to speculate in high-risk, high-return investments. (Surprisingly, however, many had no previous experience investing in natural resources.) There are no significant differences in age, occupational prestige, or experience between those who invested earlier in Fountain and those who invested later (see Baker and Faulkner, 2003). For example, those who invested earlier did not have more experience than those who invested later. Similarly, those who invested earlier did not have more prestigious occupations compared with those who invested later. Thus, those who invested later in Fountain do not have the characteristic profile of late adopters. Perhaps there are no late adopters because the diffusion process was cut off prematurely, due to the fraudulent activities that led to the firm’s bankruptcy and closure.

At first, we were puzzled by one aspect of buyer behavior: the lack of word-of-mouth referrals among investors, especially as Fountain requested referrals. The “congestible goods” nature of Fountain’s oil and gas investments (see above) is one explanation of the refusal to refer. However, our interviews suggested additional reasons. For example, several investors stated that they refused to refer Fountain to others because they wanted to keep a good thing to themselves. Keeping quiet about investment opportunities is a way to pursue the cultural goal of monetary success relative to

DIFFUSION OF FRAUD

1627

others (Merton, 1968:190–191).⁴ Moreover, financial transactions take place in a business culture of secrecy, privacy, self-reliance, and individualism (e.g., Bellah, et al., 1996; Wuthnow, 1987:201), so that investors would be loath to talk about the specifics of their investments. Ironically, when a legitimate business drifts into fraud (the case of intermediate fraud), the institutions of privacy (Shapiro, 1990; Stinchcombe, 1963) help to perpetuate the diffusion of fraud.

Seller attributes and behavior. Fountain emulated the attributes of their affluent investors to induce adoption, using the social psychological techniques that many salespeople use to increase the rate of sales (Rogers, 1995:335–370; Cialdini, 1993:220–229). For example, the company rented tony offices in a prestigious Westlake Village office building. Fountain's offices displayed symbols and artifacts of oil and gas exploration. "I went to their offices," an investor told us, "They had oil results posted, lots of charts, maps, a few successes and a few failures, tubes of dirt, and so forth. It all looked good." The three principals lived in Thousand Oaks and Westlake Village, two expensive and exclusive areas. Charles Fuentes lived in a luxurious home (described as "lush and plush" by a respondent), drove a black Lamborghini and a red Rolls Royce, and had 20 Bijan suits (valued at \$2,500 each). "Finely styled and expensive clothes carry an aura of status and position, as do trapping such as jewelry and cars" (Cialdini, 1993:229). These "authority symbols" (Cialdini, 1993) are powerful influences. For example, one respondent told us that he decided to invest in Fountain after he drove by Charles' home and saw the Rolls Royce parked in front. Another reported that he was persuaded after Charles pointed out his office window to the Lamborghini parked below, saying, "Do you think I'd be driving a car like that if I wasn't successful?" Fountain also employed experts who were influential because investors perceived them to be authorities. One investor, for example, called Fountain's petroleum geologist "a guru-type guy."

Structure of the social network. A connected social network of investors and potential investors facilitates diffusion, in contrast to an incomplete or fragmented network. As explained above, we do not have data on the entire network of investors. However, indirect evidence suggests that investors were connected via social networks. For example, the highest

4. Of course, there are motivations other than monetary greed for the adoption or diffusion of fraud. In health insurance fraud in the small-business sector, for example, low-wage employees are forced, out of desperation, to purchase worthless insurance policies because legitimate firms have fled the market (Tillman, 1998; Tillman and Indergaard, 1999).

geographic concentration of investors (16%) occurs where Fountain principals lived and worked: Westlake Village and Thousand Oaks. The proportion rises to 27% if we include the surrounding area (e.g., Woodland Hills, Newbury Park, Agoura Hills, Camarillo, Encino, Simi Valley). Further, Fountain targeted a homophilous type of investor: affluent men in their early fifties who were professionals or business people (see above). Generally, similar others are more likely to know each other than dissimilar others. And this particular type of investor tends to have expansive networks. Together, geographic concentration, homophily, and expansive networks suggest that a substantial number of Fountain investors knew each other or were connected by very short chains.

But being members of a network does not mean that investors knew each other as fellow investors. Knowing someone does not mean one investor knows another's investment portfolio, especially in a culture where investors are motivated to maintain secrecy. Therefore, we surmise that the lack of word-of-mouth diffusion was not the result of an incomplete social structure; rather, a social network was available for diffusion but seldom used. For example, an investor told us that he discovered only after the fraud was exposed that friends and colleagues had invested in Fountain. "It was a big coincidence when I went to the investor meeting [held by the court-appointed receiver] and looked over and saw [a friend *and* work colleague]. Hey, I know him, I said [to myself]. I pointed to him, laughed, and said, 'You got screwed, too?'"

Method of propagation. In the classic diffusion paradigm, sellers launch a new product by promoting it to their direct social ties and by constant-source methods (direct mail, telemarketing cold calls, advertisements). Then, word-of-mouth referrals among prior buyers and potential buyers "takes over" and completes the diffusion process. It appears that Fountain attempted to use this two-stage model. Like most sellers, Fountain's principals, sales representatives, and employees tapped their social ties to find and recruit investors. Fountain also advertised, used direct mail, and mounted a telemarketing effort. Fountain also attempted to create a network diffusion effect, requesting and even pressuring investors to refer the company to their social ties. As most refused, however, the company may have been forced to rely more on impersonal methods of communication, such as telemarketing, than they had originally planned. This may explain the prevalence of impersonal methods (50% of all investors) used in the diffusion of Fountain's investment.

We noted above that perpetrators of preplanned frauds prefer to avoid word-of-mouth diffusion among buyers. The fact that Fountain encouraged communication among investors and potential investors is further evidence that the company began as a legitimate business. Ironically,

DIFFUSION OF FRAUD

1629

once it became an intermediate fraud, the lack of communication among investors helped to perpetuate the fraud by keeping investors in a state of “closed awareness” (Glaser and Strauss, 1964). Most investors became suspicious, but without communication, it was difficult to convert their suspicions into open awareness and collective action. “I didn’t talk to anyone about my suspicions,” one investor told us, “because there’s no one to talk to.”

CONCLUSION

Criminologists have studied the spread of fraudulent practices and techniques among perpetrators. We contribute to criminology by looking at the other side of diffusion, examining the spread of fraud among investors in a case of intermediate fraud. Using diffusion theory to guide our analysis, we investigated the ways in which five factors—product attributes, buyer attributes and behavior, seller attributes and behavior, structure of the social network, and method of propagation—influence the adoption and diffusion of investments in oil and gas wells among a population of investors. The case of intermediate fraud is interesting because the factors that contributed to the success of the business in its legitimate stage are the same factors that contributed to the success of the fraud in its illegitimate stage.

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1630

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