The Role of Online Trading Communities in Managing Internet Auction Fraud

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Abstract

Internet auctions demonstrate that advances in information technologies can create more efficient venues of exchange between large numbers of traders. However, the growth of Internet auctions has been accompanied by a corresponding growth in Internet auction fraud. Much extant research on Internet auction fraud in the information systems literature is conducted at the individual level of analysis, thereby limiting its focus to the choices of individual traders or trading dyads. The criminology literature, in contrast, recognizes that social and community factors are equally important influences on the perpetration and prevention of crime. We employ social disorganization theory as a lens to explain how online auction communities address auction fraud and how those communities interact with formal authorities. We show how communities may defy, coexist, or cooperate with the formal authority of auction houses. These observations are supported by a qualitative analysis of three cases of online anticrime communities operating in different auction product categories. Our analysis extends aspects of social disorganization theory to online communities. We conclude that community-based clan control may operate in concert with authority-based formal control to manage the problem of Internet auction fraud more effectively.

Keywords: Auction fraud, e-commerce, authority, communities, clan control, informal social control

Introduction

Internet auctions are among the most celebrated and successful new business models of the emerging knowledge economy (Kambil and Heck 2002). eBay, the largest Internet auction house, has experienced exponential growth in customers, number of items sold, and gross merchandise sales since its incorporation in 1996 (eBay Inc. 2005). In 2005, eBay hosted over 181 million registered users and mediated over 1.6 billion trades worth more than $44 billion. However, growth in Internet auctions has been accompanied by a steady increase in fraud (National Fraud Information Center 2005),
making Internet auction fraud the leading source of Internet fraud (Bywell and Oppenheim 2001; National Fraud Information Center 2003; Roth 2000; Snyder 2000). The Internet Fraud Complaint Center reported that 62.7 percent of fraud complaints were directly related to auction fraud (National White Collar Crime Center and Federal Bureau of Investigation 2005). The National Consumers League reported that 42 percent of all consumer complaints were related to Internet auction fraud (National Fraud Information Center 2004).2

Researchers in information systems typically analyze Internet auction fraud at the individual level of analysis (e.g., Ba and Pavlou 2002; Grazioli and Jarvenpaa 2003b; Hu et al. 2004). In studying the relationship between a buyer and seller, researchers focus on market mechanisms such as price or other signals that are employed to deceive victims, as well as authority-based mechanisms like the police and judiciary that expose fraud and prosecute con artists. However, research in criminology suggests that a focus on individual choice limits an understanding of criminal activity by ignoring the social context in which crimes are perpetrated and consequences manifested. In this paper, we expand current thinking about Internet auction fraud by using social disorganization theory to understand the role of online anticrime communities in managing Internet auction fraud. Our use of social disorganization theory in this context is novel because the theory originally focused on violent or physical property crimes in geographically bounded communities (Anderson 1999). Internet auction fraud occurs online, raising questions about the role of online communities in managing fraud. Our specific research questions are

• What mechanisms do online communities employ to manage Internet auction fraud?

• How do community responses to Internet auction fraud relate to, and interact with, responses by authorities?

• What practical implications can be drawn for the management of Internet auction fraud?

We address these questions through a comparative case analysis of three auction-based online communities.

Our research makes three primary contributions. First, we show that communities address fraud in ways that are substantially different from the manner in which authorities address fraud. Authorities focus primarily on the establishment and enforcement of rules. Communities, in contrast, are better able to monitor community activities and to detect criminal activity, often before actual crimes occur. Communities use the knowledge gained from monitoring to exert informal social (clan) control over crime. As predicted by social disorganization theory, the members most attached to their communities are increasingly active in fighting crime. Second, we show that communities at different stages of development (dissatisfaction, resolution, and interdependence—see Nolan et al. 2004) have separate relationships with the formal control exercised by authorities. These relationships range from antagonistic in the dissatisfied community, to cooperative in the interdependent community. As such, interdependent anticrime communities display the greatest ability to maintain order through collective efficacy (Nolan et al. 2004). Third, we offer the practical conclusion that authorities should facilitate the process of community development by encouraging clan control and cooperating with community members in combating Internet auction fraud.

Theoretical Background

Fraud is defined legally as

a misrepresentation or concealment with reference to some fact material to a transaction that is made with knowledge of its falsity or in reckless disregard of its truth or falsity and with the intent to deceive another and that is reasonably relied on by the other who is injured thereby (Merriam-Webster’s Dictionary of Law 1996).

Internet auction fraud is a broad category of crimes that are aided or abetted by participation in Internet auctions (Newman and Clarke 2003). Although auctions may be seen as examples of pure market systems of exchange (Biggart and Delbridge 2004), the high incidence of fraud suggests that distortions exist in these otherwise efficient markets. Indeed, Internet auctions have been characterized as highly “criminogenic” environments, offering numerous opportunities for criminals to profit by deceiving unsuspecting victims (Newman and Clarke 2003). In particular, Internet auctions permit stealth and reconnaissance because criminals can secretly observe auctions in progress and stalk their potential victims without detection. Internet auctions also afford anonymity to criminals who, like most Internet auction participants, operate under pseudonyms. Con artists using Internet auction sites can also escape from the scenes of crimes, leaving no physical evidence to trace them. Stealth, reconnaissance, anonymity, and escape are four of six criminogenic characteristics that

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2The National Consumers League noted that reports fell after eBay stopped linking to it in 2003. It was estimated that if that link was still in place, auction fraud would constitute 71 percent of complaints.
Table 1. Varieties and Victims of Internet Auction Fraud (adapted from Curry 2001)

<table>
<thead>
<tr>
<th>Type of Fraud</th>
<th>Description</th>
<th>Harms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shilling</td>
<td>Seller’s confederate bids on seller’s auction to drive up its price.</td>
<td>Buyer</td>
</tr>
<tr>
<td>Bid shielding</td>
<td>Two bidders collude on an auction. One bidder makes a low bid, while the second makes an inflated bid that is withdrawn just before the auction ends.</td>
<td>Seller, Other Bidders</td>
</tr>
<tr>
<td>Misrepresentation</td>
<td>Seller intentionally describes an item incorrectly.</td>
<td>Buyer</td>
</tr>
<tr>
<td>Fee stacking</td>
<td>Seller adds hidden costs such as handling charges to the item after the auction ends.</td>
<td>Buyer, Auction House</td>
</tr>
<tr>
<td>Failure to ship</td>
<td>Seller never sends the purchased item.</td>
<td>Buyer</td>
</tr>
<tr>
<td>Failure to pay</td>
<td>Buyer never sends payment.</td>
<td>Seller</td>
</tr>
<tr>
<td>Reproductions/counterfeits</td>
<td>Seller advertises counterfeit goods as the real thing.</td>
<td>Buyer, Third Party</td>
</tr>
<tr>
<td>Triangulation/fencing</td>
<td>Seller sells stolen goods.</td>
<td>Buyer, Third Party</td>
</tr>
<tr>
<td>Buy and switch</td>
<td>Buyer substitutes delivered item with an inferior one for a fraudulent refund.</td>
<td>Seller</td>
</tr>
<tr>
<td>Loss or damage claims</td>
<td>Buyer claims item was damaged and disposed of it. Buyer wants refund.</td>
<td>Seller</td>
</tr>
<tr>
<td>Shell auction</td>
<td>Seller sets up auction solely to obtain names and credit cards.</td>
<td>Buyer</td>
</tr>
</tbody>
</table>

increase the risks of fraud in electronic markets of all kinds (Newman and Clarke 2003).  

Although buyers are victimized most often, Internet auction fraud can affect many parties. Auction houses can be cheated through lost fees (Kauffman and Wood 2005); sellers can be cheated through false payment (e.g., bad checks) and fraudulent credit card chargebacks; third-party merchants can lose merchandise; owners of property rights can have their rights diluted by counterfeits (Grossman and Shapiro 1988a, 1988b); other sellers may lose customers through heightened perceptions of risk; and honest traders can have their reputations sullied by impersonators. Table 1 presents the major types of Internet auction fraud and identifies the individuals harmed.

Previous IS research on Internet auction fraud has focused primarily on the individual level of analysis. Many studies have examined crime from the perspective of rational choice theory. These studies often urge changes to the rules and regulations governing Internet auctions with the aim of reducing incentives for engaging in fraud (Bywell and Oppenheim 2001; Roth 2000; Snyder 2000). Specific auction characteristics that have been studied include auction fees (Kauffman and Wood 2005), authentication (Ba et al. 2003; Wang et al. 2002a), escrow (Hu et al. 2004), shilling (Sinha and Greenleaf 2000; Wang et al. 2002b), trader reputation systems (Ba and Pavlou 2002; Bakos and Dellarocas 2002; Melnik and Alm 2002; Resnick et al. 2006; Standifird 2001), and warranties (Ederington and Dewally 2002). Other research at the individual level of analysis has examined decision processes in Internet auctions. For example, Grazioli explored deception across several studies (Grazioli 2004; Grazioli and Jarvenpaa 2000, 2003a, 2003b; Johnson et al. 2001), and Pavlou and Gefen (2005) studied fraud from the perspective of psychological contracts.

Although auctions may be seen as individual transactions between buyers and sellers, individual-level analyses of auction fraud typically ignore community influence over trading decisions. Within criminology, community structure and action are acknowledged as important influences on both the level and nature of criminal activity as well as community responses to crime. In these analyses, fraud and response to fraud are related to the physical, social, and economic conditions in neighborhood communities. Residents living in close proximity to each other have both the motivation and capacity to respond actively against criminal activity, sometimes in cooperation with formal authorities. Although Internet auc-
tions are conducted online rather than in physical neighborhoods, they also manifest community characteristics that have been neglected in the IS literature (for exceptions, see Chua and Wareham 2002, 2004). In the following section, we describe one theory of community action, known as social disorganization theory, which appears adaptable to the study of community responses to fraud in Internet auctions.

Social disorganization theory argues that crime occurs when communities are weak and disorganized, and that more developed communities can deter crime effectively. In its original form, social disorganization theory postulated that the root causes of crime were economic disadvantage and residential instability caused, in part, by large migrations of populations (Shaw and McKay 1942). Modern versions of the theory expand this original conception to include the impact of residential culture on crime (Anderson 1999; Sampson et al. 2002; Triplett et al. 2003). For example, research examines how respect is earned in communities and how respect affects criminality (Bourdieu 1996). Thus, vendetta killings, which often have limited economic benefit, are enacted because the community approves of them as “codes of the street” (Horowitz 1983). Similarly, some communities in high-crime regions have low crime rates because stealing from members of one’s own community is considered socially unacceptable (Brewer et al. 1998).

Social disorganization theory focuses not only on community regulation of criminal activity, but also on the development of communities and their relationships with authorities in efforts to combat crime. In many cases, community regulation produces more effective results than regulation by formal authorities such as police. For example, evidence indicates that neighborhood watch programs initiated by government officials work less effectively than those initiated by community leaders (Bennett 1995). Indeed, anticrime communities often form when authority-based control is ineffective or even implicated in the perpetration of crime. For example, Brewer et al. (1998) describe how paramilitary groups enforced law and order in areas of Belfast where official police feared to tread, and Hill (2004) reports multiple cases where environmental action communities formed because government agencies dumped hazardous waste illegally in community living areas.

Social disorganization theory is appropriate for the study of Internet auction fraud for several reasons. Although social disorganization theory originated over 60 years ago, researchers within criminology still use it to examine the effects of community on crime (for reviews, see Bursik 1988; Kubrin and Weitzer 2003; Triplett et al. 2003). Most other criminological theories focus on the power of authority (Foucault 1977) or the motivations of criminals (Cornish and Clarke 1986). Although some theories focus on the influence of social conditions on crime, using concepts such as anomie (Merton 1938) and social control (Hirschi 1969) to explain deviant behavior, most social theories of crime are individual-level (Bursik 1988). By contrast, social disorganization theory focuses directly on the community.

We extract three main ideas from social disorganization theory: (1) neighborhood attachment as a motivation for community responses to crime; (2) the stages of community development; and (3) the distinction between formal (authority-based) control and informal (clan) control.

Neighborhood Attachment. A central argument in social disorganization theory is that the strength of informal social controls that communities apply to reduce crime is positively related to the degree of attachment that members of a community feel toward their neighbors and their physical locality (Silver and Miller 2004). If a substantial proportion of individuals intend to reside within a community for a long time, then anticrime communities are more likely to form. If most individuals are transient, anticrime communities are less likely to form (Taylor 1996). Victimization of community members moderates the relationship between attachment and the formation of anticrime communities. Thus, victims who intend to stay tend to fight crime more aggressively, while victimized transients hasten their exit (Woldoff 2002).

Social disorganization theory focuses primarily on the attachment of community members to the physical neighborhood (Sampson and Groves 1989). In contrast, proponents of the concept of social capital in communities are more likely to emphasize the strength of social relationships in the community (e.g., Adler and Kwon 2002). Social disorganization theory argues that even members with weak social relationships may contribute to anticrime efforts if their presence in the community is of sufficient duration. Thus, social disorganization theory predicts that a long-term resident with nowhere else to go would participate in anticrime activities when crime increases simply because the alternative is a reduction in the quality of the resident’s environment.

Community Development. Social disorganization theory argues that anticrime communities develop through four stages, summarized in Table 2, each involving a different relationship with authorities in controlling crime (Nolan et al. 2004). The first stage is dependence, in which community members depend upon authority for managing crime instead of managing it themselves. In the second stage, dissatisfaction, authority demonstrates its inability to manage crime and community members take matters into their own hands.
Table 2. Stages of Community Development

<table>
<thead>
<tr>
<th>Stage No.</th>
<th>Stage Name</th>
<th>Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Dependence</td>
<td>Community does not react to crime. Community members feel that dealing with crime is the responsibility of authorities.</td>
</tr>
<tr>
<td>2</td>
<td>Dissatisfaction</td>
<td>Community is hostile to and comes into conflict with both criminals and authority. In some dissatisfied communities, community members break laws to fight crime (e.g., by assaulting criminals). Others attempt to harm authority (e.g., with lawsuits or complaints of incompetence).</td>
</tr>
<tr>
<td>3</td>
<td>Resolution</td>
<td>Community is hostile to criminals. Community relationship to authority varies between hostility and cooperation. Community does not establish a lasting cooperative relationship with authority.</td>
</tr>
<tr>
<td>4</td>
<td>Interdependence</td>
<td>Community is hostile to criminals. Community relationship with authority is cooperative. Community exhibits a high degree of collective efficacy.</td>
</tr>
</tbody>
</table>

The third stage is resolution, in which community members begin to trust authority and recognize authority’s benefits for managing crime. The resolved community begins to supplement existing authority-based mechanisms, but does not fully cooperate with authority (Kane 2002). The final stage is interdependence, where authority and community recognize each others’ particular strengths and work hand-in-hand to manage crime. In interdependent communities, authorities and communities negotiate and define their respective roles and relationships with each other. Authorities may, for example, facilitate the efforts of community members to police themselves and intervene only when community action is insufficient. Nolan et al. (2004) regard the interdependent community as having the highest degree of collective efficacy, defined as the cohesion among residents and their shared expectations for social control of public space.

According to social disorganization theory, not all communities achieve the collective efficacy manifest in the final stage of interdependence; some remain in an earlier stage of development. A community remaining in the dependence stage continues its dependence on authority, and chooses not to intervene when a crime is committed. A community remaining in the dissatisfaction stage creates mechanisms that bypass authority and often comes into conflict with authority. The community often usurps authority’s monopoly on the use of physical force to punish malfeasance. For example, communities in the dissatisfaction stage might exercise control over crime with paramilitary groups, financed with protection money paid by community members. A community remaining in the resolution stage would increase its efficacy by demonstrating fewer signs of conflict and cooperate more with authority. However, the resolved community fails to integrate its efforts fully with authority. Communities of illegal immigrants are often in the resolution stage. They are reluctant to cooperate with police investigations out of fear of deportation or other punishments, but assume informal responsibility to socialize members and inculcate them with moral codes of conduct (Brewer et al. 1998; Nielsen et al. 2005; Osgood and Anderson 2004).

Formal and Informal Control. The literature on social disorganization theory suggests that authorities and communities manage criminal activity in distinct ways. Authorities grant their agents the right to use force to restrain suspected criminals. In contrast, communities influence individuals through informal, clan-like social relationships and trust (Adler 2001). Clan and formal controls may either complement or contradict each other. Professional codes of ethics, for example, are often developed to guide professional conduct informally by complementing the “letter of the law” (Davis and Neal 1998; Matthews 1991; Shaked and Sutton 1981). However, communities may also sanction violations of laws that are perceived as discriminatory or impractical (Kane 2002).

This emphasis on formal and informal control aligns well with the literature on governance of economic exchange, which has long recognized clans as self-governing entities, along with markets and hierarchies of authority (Adler 2001; Kirsch 1997; Ouchi 1980; Williamson 1975). In the context of auction fraud, both communities and authorities might complement each other’s efforts to cope with the criminogenic nature of Internet auction markets. However, Adler (2001) states that the relationships among community, authority and markets is ambiguous: the modes of governance “are sometimes complements and sometimes substitutes” (p. 221). This ambiguity is addressed in social disorganization theory’s specifi-
cation of stages of development, which manifest varying states of conflict and cooperation between communities and authority.

Social disorganization theory is not without its limitations and critics (Bursik 1988; Kubrin and Weitzer 2003). Three concerns raised in the criminology literature pertain specifically to our study. First, community control may be associated with both the increase and reduction of crime. For example, “codes of the street” may encourage particular forms of crime that are seen as helping the community, while discouraging other forms that damage it (Horowitz 1983). As one instance, stealing from neighbors might be regarded as socially improper, while stealing from nonresidents (e.g., tourists) might be seen as consistent with community interests. Thus, it is important for research to carefully assess community values instead of assuming that communities always help in nominal crime reduction (Brewer et al. 1998; Silver and Miller 2004). Second, community-level controls function in an environment where authorities already exist. Thus, it is important to situate community controls within the context of the community’s relationship with authority (Carr 2003). Third, studies in social disorganization theory are often criticized for defining communities based on arbitrary divisions (e.g., voting blocks), without recognizing that actual communities may not correspond to those divisions. Thus, community researchers should collect and analyze community-level data where possible.

In summary, three aspects of social disorganization theory are central to our analysis of the management of Internet auction fraud: neighborhood attachment, stages of community development, and relationships between formal authority and clan control. Despite social disorganization theory’s original focus on geographically bounded communities, we extend these concepts to analyze online communities involved in Internet auctions. Our research method involves qualitative analysis of three anticrime communities at different stages of development.

Method

Most research on Internet auctions uses quantitative data collected from auction websites (e.g., Ba and Pavlou 2002; Kauffman and Wood 2005; Livingston 2002; Lucking-Reiley et al. 2000). We employ a qualitative approach that offers rich detail on community roles in fighting crime. Results of qualitative research may complement findings from quantitative studies, thereby strengthening research conclusions about Internet fraud (Lee 1991; Mingers 2001). Fraud is difficult to assess quantitatively because fraudulent traders usually mimic legitimate ones. Objective reports of fraud may also be understated because victims are often unaware that they have been victimized, or choose not to report fraud to official sources. However, experienced traders are aware of the presence of fraud and are willing to discuss it publicly in Internet forums, as well as privately in interviews. Our research relied on such sources to gain an intensive view of fraud and the mechanisms used to combat it.

Our use of qualitative techniques also enables us to address several limitations in previous research, reviewed earlier, using social disorganization theory. Specifically, we explore the nuances of the relationship between community values and crime, thereby showing how communities both promote and reduce crime. For example, our study of Vigilantes reveals a community that simultaneously violated auction house rules while attempting to evict con artists from the trading community. We also overcome concerns regarding the operation of clan controls in an environment where authorities simultaneously exert formal control. Indeed, the relationship between community and authority is one of our primary research interests. Finally, rather than using census or other proxy data to estimate community characteristics, we examined communities directly by observing community activities and interviewing community members.

Data Sources

Data for this study originate from a larger study of auction fraud that was initiated in 2002 and completed in 2005. Data on Internet auction fraud were obtained primarily from publicly available sources on Internet sites. We searched for the term “auction fraud” on six sites: AltaVista, Google, and Yahoo (to identify web pages and articles), the eBay and Yahoo discussion forums, and Google groups. Because our searches were conducted manually (without the use of automated robots), they generated negligible load on websites designed for public access, so no special permissions were sought from website owners (Allen et al. 2006). Snowball sampling (Kuzel 1992) was employed to identify additional articles and postings using keywords associated with fraud. For example, as we learned more about the auction community, we searched using specific terms such as “Jay Nelson” (a well-known con artist), “IFCCFBI” (the Internet Fraud Complaint Center), and “escrow.” Refinements in the search led to other sites and postings, such as the eBayExodus web ring (now defunct), fraud.org (maintained by the National Consumers League), AuctionWatch (an auction community), the Online Auction Users Association (now defunct), and eSafe2Bid (an auction security software). In summary, public documents included
Table 3. Sources of Data

<table>
<thead>
<tr>
<th>Source</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bulletin Board Postings</td>
<td></td>
</tr>
<tr>
<td>Usenet News</td>
<td>605</td>
</tr>
<tr>
<td>Auction Watch</td>
<td>238</td>
</tr>
<tr>
<td>Online Auction Users Association</td>
<td>177</td>
</tr>
<tr>
<td>Auction BBSes</td>
<td>362</td>
</tr>
<tr>
<td>Paypal Warning BBSes</td>
<td>294</td>
</tr>
<tr>
<td>StampChat</td>
<td>109</td>
</tr>
<tr>
<td>Trader Lists</td>
<td>218</td>
</tr>
<tr>
<td>Websites</td>
<td>14</td>
</tr>
<tr>
<td>Interview Subjects</td>
<td>9</td>
</tr>
<tr>
<td>News Articles</td>
<td>112</td>
</tr>
<tr>
<td>Government/Official Sources</td>
<td>21</td>
</tr>
<tr>
<td>Fraudulent Auctions Viewed</td>
<td>50</td>
</tr>
<tr>
<td>Personal Records of Interviewees</td>
<td>9</td>
</tr>
</tbody>
</table>

- **Web Pages Devoted to Auction Fraud.** These included official web pages such as those of the National Consumers League, as well as personal web pages of experienced traders who offered advice about fraud.

- **Bulletin Board Postings.** These included postings on the bulletin boards of major Internet auction houses (e.g., eBay, Yahoo), on Usenet news (archived on Google groups), and postings on bulletin boards of auction communities (e.g., Online Auction Users Association, paypalsucks.com, AuctionWatch).

- **News Articles.** Sources included general news outlets like CNN and The New York Times, and specialized sources such as PCWorld and CNet Central.

Because most of our data were obtained from publicly available sources, a substantial portion of it can be retrieved through an Internet search employing the quoted text as a search string. It is therefore possible to validate our data sources by accessing them directly. In qualitative research, this form of measurement validity is referred to as objectivity or confirmability (Miles and Huberman 1994, p. 278). Unfortunately, data gathered from websites and bulletin boards that became defunct, or whose archives were erased, cannot be retrieved. Such data is available from the authors upon request.

Once these sources were exhausted, we posted requests for information to several electronic bulletin boards and news-groups. Various people expressed interest in our work, and we conducted e-mail interviews. Respondents directed us to specific fraudulent auctions, which we monitored to observe interference by community members. Finally, we conducted semi-structured interviews via e-mail with nine traders who observed or actively fought fraud. We posed questions in an open-ended fashion that encouraged respondents’ elaboration. In some cases, individuals provided private documents describing interactions with con artists and victims. Table 3 summarizes our data sources. Overall, more than 2,000 documents were obtained, ranging in type from individual bulletin board postings to web pages.

**Sample**

For this paper, we analyzed data originating from three specific anticrime communities: Vigilante, Stamp Collectors Against Dodgy Sellers (SCADS), and Traderlist.com. Each of the three represents a specific stage of community development in social disorganization theory (Nolan et al. 2004). Table 4 summarizes the three cases.

We selected cases based on three considerations. First, the cases needed to match one of the stages identified in social disorganization theory. Of course, no individual case is likely to match the description of any stage perfectly. For example, some community members in an interdependent community could oppose authority, and some members in a dissatisfied
Table 4. Case Summaries

<table>
<thead>
<tr>
<th>Case</th>
<th>Stage of Development</th>
<th>Trading Community</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vigilante Community</td>
<td>Dissatisfaction</td>
<td>High priced consumer items</td>
<td>Community members identify suspected fraudulent auctions. Members interfere with and spoil auction. Many mechanisms employed to spoil auction are against auction house rules. The deliberate violation of rules makes this a dissatisfied community.</td>
</tr>
<tr>
<td>Stamp Collectors Against Dodgy Sellers (SCADS)</td>
<td>Resolution</td>
<td>Stamp traders</td>
<td>Community members identify fake or altered stamps. Community members post warnings of fraud on website, with detailed explanation of how fraud is occurring. Community members do not alert authority. Community members do not disrupt auction. The unwillingness of community members to both break rules and enter into prolonged dialog with authority makes this a resolved community.</td>
</tr>
<tr>
<td>Traderlist.com</td>
<td>Interdependence</td>
<td>Beanie toys</td>
<td>Community members authenticate beanies. Community members also aggregate fraud complaints and engage in mediation and dispute resolution. When dispute resolution fails, community members forward information to police. The close relationship between the community and law enforcement makes this an interdependent community.</td>
</tr>
</tbody>
</table>

community could cooperate with authorities. Nolan et al. (2004) argue that communities should be categorized based on the stage in which the community spends the most time. Our data show that the majority of Vigilante, SCADS, and Traderlist community actions exhibited signs of dissatisfaction, resolution, and interdependence, respectively. We intentionally excluded cases representing the dependence stage of social disorganization theory. Communities at the dependence stage depend exclusively on authority to control crime, implying that very little community activity is devoted to crime prevention. It follows that one cannot observe the anticrime activities of communities in the dependence stage.

Second, the three cases needed to be prominent in the fight against auction fraud. All of the anticrime communities selected for study were prominent either in terms of public notoriety (Vigilante) or community activism (SCADS and Traderlist).

Third, we required access to individual members in each case and were able to establish contact with members from each of the three communities. Members of the Vigilante community provided us with private correspondence among themselves and between the Vigilantes and con artists. Similarly, we were contacted by SCADS members who provided samples of their personal analyses of fraudulent activity. Finally, we interviewed the founder of Traderlist. In defining anticrime communities as cases, we recognize that the boundaries of online communities participating in Internet auctions are different from geographic boundaries separating neighborhoods. In neighborhoods, community members live in the same area, and crime watchers patrol a bounded set of streets and homes. Members of online auction communities are free from geographical constraints and able to move their activities into different trading areas. For example, a collector of Ty beanie toys may participate not only in eBay, but in other Internet markets.

To clarify the issue of community boundaries, we defined two levels of community: the broader trading community, whose members traded in a particular class of merchandise, and the anticrime community, which operated within the trading community. The anticrime community, which is the main focus of this paper, was composed of trading community members who expended effort to reduce or ameliorate the effects of crime. Both of these communities differed from the auction houses, which operated as authorities that created and enforced the rules of trading. To clarify the distinction among these three entities, we use the following terms throughout the paper:

- **trading community**: refers to the broader community trading in a specific commodity (i.e., high-priced consumer items, stamps, and beanie toys)
community, or anticrime community: refers to the anticrime community within the larger trading community (i.e., Vigilantes, SCADS, and Traderlist.com)

authority: refers to the auction house (i.e., eBay, Yahoo)

Data Analysis

Data were analyzed using the lens of social disorganization theory. To answer our research questions, we focused on the issues of clan control, attachment, and relationships between communities, authorities, and criminals. We focused on clan control because of the theoretical distinction between clan control and formal control. We focused on attachment because it is a central theme in social disorganization theory; community members that remain attached to their communities fight crime more actively. Finally, we focused on relationships between communities, authorities, and criminals to better understand the differences in these relationships across the stages of community development identified in the theory.

Clan control. Clan control was assessed through a content analysis of bulletin board and website messages. The analysis identified more than 60 distinct ways of addressing more than 30 separate kinds of fraud. The content analysis also identified controls employed by market activity and auction house authorities. Inter-rater agreement between the two authors who coded the data was measured using Cohen’s kappa, which compensates for the possibility of agreement by chance. Kappas ranged from 0.6 to 0.8, where 0.6 is considered acceptable, and 0.8 is considered almost perfect.

Attachment. All three cases had existed for a number of years prior to data collection. In many instances, messages were dated and/or time-stamped, making it possible to ascertain the approximate length of time that members of the anticrime community had been active. Interview subjects also frequently mentioned the duration of their tenure in the anticrime community and the trading community.

Relationships with authority. Data were analyzed to discern the quality of the relationship between community and authority. For example, we reviewed postings on bulletin boards and interviews in the popular press to determine whether members wrote derogatively or respectfully of authority. Uses of expletives, emoticons, and punctuation provided cues for interpreting cooperative, distant, and antagonistic relationships.

1Detailed descriptions of the types of controls are beyond the scope of the paper. Readers may contact the first author for more details.

Relationships within the trading community. Our data originated not only from anticrime community sources, but also from the broader trading communities. For example, we obtained data on Vigilantes not only from the Vigilante discussion group, but also from auction bulletin boards. Likewise, SCADS data came not only from SCADS members, but also from stamp discussion forums on Google. Similarly, Traderlist data came not only from the Traderlist website, but also from postings to other bulletin boards. It was therefore possible for us to judge how members of the trading community who were not involved in fighting fraud viewed the anticrime community.

Relationships with criminals. We reviewed data to ascertain both members’ attitudes toward criminals, as well as criminals’ responses. Some Vigilantes showed us death threats sent by criminals. In the SCADS and Traderlist communities, criminal responses were documented on websites. Understanding the response of alleged con artists allowed us to explore the causal relationship between crime and attachment of the anticrime community.

Ethical Considerations

Along with legal principles regarding research that gathers data from commercial Internet sites (Allen et al. 2006), ethical principles for research on online communities have also been proposed (Ess 2007; Jones 1999). Two concerns specific to our research include sensitivity to the privacy of individuals contributing public data that might be used for research purposes, and informed consent (King 1996). In contrast to the oral cultures of geographically bounded communities, communication in online communities is archived and accessible for research use at relatively low cost. Because many members of online communities may be unaware that their postings could be used for research purposes, and therefore may reveal their true identities, researchers need to exercise care to protect member privacy. For example, it would be inappropriate to reveal the identities of individuals posting questions on public forums seeking assistance for psychological depression (King 1996). In such situations, researchers should assess the perceived privacy that members of an online community experience. When perceived privacy is assessed as high, researchers should not reveal the identity of those communicating sensitive information.

In our study, we assessed the perceived privacy of Internet auction participants to be low. Auctions occur in public venues where most traders intentionally mask their true identities with a pseudonym. Contributors to community bulletin boards generally know that comments are archived and retrievable by anyone with a user account. For these reasons,
Table 5. Summary of Case Analysis

<table>
<thead>
<tr>
<th>Attachment of Members</th>
<th>Vigilante</th>
<th>SCADS</th>
<th>Traderlist.com</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Strongly attached</td>
<td>Strongly attached</td>
<td>Strongly attached</td>
</tr>
<tr>
<td>Clan Control</td>
<td>Vigilantes maintain history of known con artist behavior. When fraudulent goods are sold, they bid with evocative names to signal fraudulent behavior.</td>
<td>SCADS members are frequent traders on stamp auctions, and can recall characteristics of previously encountered traders and stamps. SCADS members alert the trading community when stamps reappear in modified form, or traders behave aberrantly.</td>
<td>Traderlist members maintain a site for victims of fraudulent beanie baby transactions to visit. Traderlist members mediate trading disputes. When sufficient evidence is gathered, they present concrete evidence to police, thereby increasing the likelihood that police will respond.</td>
</tr>
<tr>
<td>Relationship within Trading Community</td>
<td>Mixed. Many agree with Vigilante effects, although they may disapprove of their methods.</td>
<td>Positive to distant. Difficult for at-large community member to appreciate community knowledge. However, once community knowledge is understood, response is more positive.</td>
<td>Mainly positive. Members are trusted by community. However, some disagree with methods employed.</td>
</tr>
<tr>
<td>Relationship to Criminals</td>
<td>Have received death threats.</td>
<td>Have received threats of lawsuit.</td>
<td>Have received threats of lawsuit.</td>
</tr>
</tbody>
</table>

we judged that our use of archived comments would not breach any ethical principles.

For data obtained from private sources, such as interviews and respondents’ personal documents, we informed all respondents of our intention to publish our research. We invited respondents to contribute to a research study and revealed the first author’s identity, e-mail addresses, and personal website. Earlier drafts of this paper and one other published paper were also sent to interview subjects, who provided comments. Interview subjects were thus aware of how their contributions had been used. None of the respondents, to our knowledge, felt deceived. We were unable to contact two of the respondents to obtain permission to use their data and therefore do not include their comments in reporting our results.

Results

In this section, we present analyses of three anticrime communities that illustrate how these communities reacted to Internet auction fraud, and how those reactions were related to the actions of authorities. Table 5 summarizes our main findings.

Vigilante

The Oxford English Dictionary defines a vigilante as a member of a self-appointed group of citizens who undertake law enforcement in their community without legal authority, typically because the legal agencies are thought to be inadequate.

In the trading community, the term referred to the Vigilante anticrime community, but the term was rarely used by Vigilantes to describe themselves. When asked to review drafts of our research, several Vigilantes expressed discomfort with the term, preferring a word like hunter instead. However, all Vigilantes interviewed agreed that others applied the term to their community.
Clan control. To better understand Vigilante practices, we identified Vigilantes on two large auction houses (eBay and Yahoo) and tracked their activities during June and July 2002. On Yahoo, it was easy to track Vigilantes, because they were openly organized and followed standard practices. For example, one Vigilante identified a suspicious auction and gathered evidence that the seller’s telephone number was false and the mailing address was a post office box. Consequently, the Vigilante requested specific information about the item being auctioned, such as the manufacturer’s serial number, from the seller and investigated the con artist’s activities in another auction site. The results of the Vigilante’s investigation were posted on a Yahoo bulletin board:

*Check out the bull he gives in the questions asked! Guess who was there too... (he’s quick). Don’t know if it was listed, but his email doesn’t work and he tells everyone PayPal insures your payment to $100,000 (yeah sure).* (Yahoo BBS Post, June 23, 2002)

Vigilantes often worked together. When one Vigilante detected a likely fraud, other Vigilantes interfered with the auction using a trading account with a suggestive name (e.g., “seller equals scammer”). These actions informed the trading community that the auction was suspected as fraudulent. Vigilantes also interfered with suspicious auctions by ending them, either by bidding obscenely high amounts or by using the “buy-it-now” feature to buy the good at a seller-established fixed price. Of course, Vigilantes did not intend to pay for goods that, they assumed, did not exist. The illegal purchase was rather a move to protect unsuspecting buyers who might otherwise purchase the same goods from the con artist. As one admiring trader posted,

*You people have been hammering all over the scammers auctions in the high price laptop and cameras!...Everyone is getting all kinds of questions thrown at them from escrow refusals to serial numbers....WAY TO GO!!! WOOOHOOO!!* (Yahoo BBS user, January 24, 2002)

On eBay, Vigilante activities were less blatant. Although they disclosed themselves to the community with suggestive names, Vigilantes did not organize via the eBay bulletin board because eBay employees actively monitored the boards. However, when we requested information about fraud on eBay, various individuals who monitored Vigilante activity directed us to suspicious eBay auctions that Vigilantes had sabotaged.

Most Vigilante activity that we observed occurred in auctions for high-priced consumer items like computers and plasma TVs. Many shoppers for high-priced consumer items were transient members of a trading community because most individuals did not need to purchase multiples of such items. Many shoppers entered these auctions to obtain expensive goods at substantial discounts and unwittingly became targets of con artists who stealthily watched auctions to find novice bidders. Vigilantes rescued these people. The following quote refers to auctions that one Vigilante had sabotaged, leading to a mock celebration over the nonexistent goods that he had acquired:

*Yeah, I am living LARGE!!! I’ve got myself a few dozen Rolex watches, a roomful of Plasma TVs, enough DV camcorders to conquer Hollywood, XBOXes up the wazoo, and my own flesh-&-blood RO mail-order nymphet!* (Yahoo BBS, July 8, 2002)

Vigilantes were able to identify con artists because they acquired knowledge not held by authorities or transient traders. Social disorganization theory emphasizes the importance of community knowledge that originates from deep involvement in community activities. This knowledge included an understanding of the modus operandi of typical con artists. Vigilantes knew, for example, that con artists usually advertised a diverse array of goods to attract the maximum number of buyers in a short amount of time. Con artists also vanished soon after successful frauds so that the defrauded buyer could not find them. This did not prevent them from reappearing under new trading names. Most long-term traders in the high-priced consumables markets knew to avoid con artists based on such cues. However, con artists preyed on transients who lacked community knowledge. In the following posting, a transient trader was berated for being unfamiliar with the risks of trading:

*Tell me, what was it about this seller’s feedback that made you feel comfortable sending him money? Was it his reputation? Was it the comments from previous customers? I’m also curious why you did not use an Escrow service, as eBay recommends, on a transaction this large? Why you did not use a credit card that would offer chargeback protection in case of a problem?* (EBay BBS posting, July 12, 2002)

Attachment. We obtained clear evidence to support our expectation, based on social disorganization theory, that Vigilantes were strongly attached to their trading communities. One Vigilante whom we interviewed stated that, on his regular seller ID, he had sold “over 20,000 items,” suggesting his long term participation in the community. Vigilante
activities were important to attached members and consumed a substantial proportion of their time. Private documents provided by Vigilantes revealed that they sometimes spent months monitoring con artists to obtain information like their addresses and bank account numbers.

Relationship with authority. Although con artists’ practices were well known to members of the Vigilante community, the auction houses were apparently unwilling to invest sufficient resources into the same kind of monitoring activity. The authority of the auction house was also limited to enforcement against illegal actions. While the posting of numerous high-priced consumer items by a seller with a low reputation score raised suspicions, it was not illegal, so the auction house had insufficient grounds for intervention. Thus, Vigilantes used the knowledge gained from monitoring to protect the community in cases where the formal authority of auction houses was restrained.

Because Vigilante action to spoil suspicious auctions usurped the authority of the auction house, auction houses frequently suspended Vigilantes:

“While eBay appreciates the spirit, the tactic is against site rules, and many vigilantes are suspended for doing it.” (MSNBC Interview, July 29, 2002)

Auction houses appeared justified in punishing Vigilantes because exuberant Vigilantes sometimes mistakenly disrupted legitimate auctions. However, auction house authorities had no foolproof method for confirming or refuting a member’s honesty or intentions. For this reason, Vigilantes persisted in their efforts to identify and punish con artists directly.

Not all Vigilante tactics involved interference with auctions in progress. Vigilantes also warned members of the trading community about con artists’ tactics, such as the use of fraudulent escrow services. To protect buyers purchasing high priced items, auction houses recommended the use of escrow intermediaries that held payment until buyers verified satisfaction with goods received. However, many con artists defrauded traders by offering escrow services that were simply shell companies owned by the con artists. In response, Vigilantes listed illegitimate escrows as a community service, as the following post indicates:

Warning. Per request of one of the members we are posting the known fake escrow sites here. There have been a lot of scams running for Plasma TV’s, Laptops, Camera’s and several other high priced auctions using escrow only as a payment. These are fake and a new type of scam. They will give you a site to use and will refuse a valid escrow service. If you have any questions as to the authenticity of an escrow service that you are asked to use please email one of the members on the board or leave a reply here. (Yahoo BBS, June 22, 2002)

The adversarial relationship with authority should not imply that Vigilantes always avoided direct contact. Vigilantes sometimes communicated their concerns directly to auction authorities. Some Vigilantes also attended the annual eBay conference to lobby in person for changes in auction house policies.

Relationship within trading community. Trading community members regarded Vigilantes with mixed feelings. Many traders appreciated the Vigilantes’ efforts because they reduced the overall level of fraud:

[Name withheld], editor and publisher of [name withheld], an online newsletter about Internet auctions, said she was not a vigilante but she sympathized with their cause. (New York Times, March 20, 2004)

However, many auction participants disagreed with Vigilante methods:

“Lawlessness is the problem, no matter how you rationalize it. Don’t flatter yourself into thinking your efforts are changing anything, as long as you do what you do under cover of a fake ID, you are part of the problem, not part of the solution.” (EBay BBS Posting, July 12, 2002)

Relationship with criminals. Criminals disliked Vigilantes and acted in numerous ways to counter their actions. For example, con artists complained to the auction houses, issued death threats, and impersonated Vigilantes to defame them. According to one news report about a Vigilante,

“During the past 18 months, she’s received a couple of threatening e-mails like [name withheld], including one saying “I’m going to stab your wife.” She wasn’t scared that time, since she has no wife.” (MSNBC News, July 29, 2002)

Stamp Collectors Against Dodgy Sellers (SCADS)

Our second case, the community of Stamp Collectors Against Dodgy Sellers (SCADS), originated on the eBay discussion forums when a number of stamp traders reported that stamps
with low value were being purchased, altered to resemble rarer varieties of the same stamps, and resold at much higher prices. eBay initially rejected these reports, noting that eBay staff lacked the expertise to determine whether a stamp was authentic or fake. Moreover, eBay maintained that it was not in the business of authenticating merchandise for sale:

*eBay is only a venue, according to the eBay User Agreement. It doesn’t get to see the items offered by sellers, and as such cannot authenticate them. It is up to buyers to find out all they can about items, sellers and the terms of sale before they bid and complete the transaction.* (www.sheryll.net/ Forgeries/Forgeries_article.htm, undated)

When SCADS members began to warn stamp traders on eBay’s stamp forum, eBay censored the posts because they were in violation of eBay’s rule that an auction member should not interfere with another member’s auctions. The censoring of the eBay forums prompted the movement of SCADS to members’ personal websites. By going to designated sites, traders could obtain descriptions of specific frauds, including sellers’ auction IDs and photos of stamps before and after fraudulent alteration.

Persisting in their efforts to fight fraud without eBay’s support, SCADS managed to shut down con artists when MSNBC published an article exposing stamp fraud on eBay (Brunker 2002). The article prompted eBay to act, and over the next two years eBay used evidence from SCADS to shut down several individuals involved in stamp alteration.

Clan control. Unlike the Vigilante community, SCADS did not directly engage with con artists. Instead, SCADS’ chief control mechanism was the dissemination of information via websites and bulletin boards. Information presented was very detailed, and often contained photographs of the original and altered stamps with distinguishing characteristics highlighted. The main obstacle to SCADS’ information dissemination was the difficulty of identifying frauds accurately. Because stamp fraud required skills and special equipment to alter stamps successfully, few individuals actually committed stamp fraud, and SCADS members needed to distinguish those individuals from the honest majority. As one reporter for a stamp magazine noted,

*In researching cancellations, I found that, sometimes, modern “commemorative” cancels duplicate the appearance of the cancel from the time of the event being commemorated. Contact with a designer and promoter of special event covers led me to a commemorative cancel used for a Nebraska special cover around ten or twenty years ago.*

Although the cancel had a current date on it, the rest of its appearance was that of a 19th century cancel. I took the rubber stamp and proceeded to experiment with different ink colors, eventually settling upon a mixture of mainly red, but a bit of brown to create a slightly more orange color. Applying the rubber stamp cancellation in such a way as to show only the 19th century design and not the 20th century date. Voila! There you have the stamp pictured in this article and on the front page of Linn’s.5 (Professional Stamp Experts, April 21 1999)

SCADS members detected con artists through their deviation from normal community practices. For example, a previously unknown trader who demonstrated ignorance of stamps in general would be suspected if offering a lot containing multiple rare stamps found in the basement of a new house. Community members knew such a find was extremely unlikely. As serious stamp collectors, SCADS members possessed rich knowledge not widely held in the broader stamp trading community. Through experience, they learned the differences between valuable and ordinary stamps and the most likely ways a stamp could be forged or altered. SCADS members were able to identify fraudulent alterations by observing ancillary physical characteristics such as tears, pinpricks, or stains. SCADS members constantly monitored auctions to see when a stamp purchased in one auction had been altered and resold in another. Using this knowledge, it was possible to expose con artists masquerading as naïve traders selling rare stamps found “in the basement” or elsewhere.

Attachment. Like Vigilantes, SCADS members were long-time members of their trading community. In fact, strong attachment to the community was a prerequisite for being a SCADS member. To identify fraudulent stamps, one needed to know which stamps were rare and which were common, understand who was active in the trading community, and spot trading patterns across multiple auction listings. Such knowledge took a long time to acquire:

*I’ve learned that once someone shows you how to look for these characters, then they just jump out at you. (Someday I hope to be so good on the forgeries that don’t have these tell-tale characters!)* (StampChat discussion, March 15, 2005)

Such knowledge could only be obtained by someone with long-time experience in the community.

5 Linn’s is one of the most popular stamp newspapers.
Relationship with authority. SCADS members’ early experiences with the eBay authorities made them skeptical of eBay’s willingness to help control stamp fraud. Although eBay demonstrated greater tolerance at times, it also exercised its authority whenever it wished. For this reason, SCADS board members maintained independent sites so that members would be assured of an independent voice:

This board seems very much affected by the posting climate on the eBay board. For the present, the eBay board is quite lenient, allowing all sorts of posts that, during its stricter regimes, are removed immediately. I think the need for this board becomes somewhat diminished during those lenient periods. However, it becomes the refuge for those posters when the eBay pendulum swings back the other way. (StampChat discussion, March 20, 2005)

Like Vigilantes, SCADS members remained skeptical of authority’s ability to handle problems.

We spotted [username withheld] as deceptive right away, but it took eBay a year and a half to figure it out. Wow, do you think we have psychic powers or something? ...Like maybe in their next life eBay can be a giant septic service company and they can be hired as SCUBA divers. (StampChat discussion, May 4, 2005)

We found some evidence, however, that SCADS members had begun to cooperate more with authorities. In September 2003, eBay agreed with the American Philatelic Society to identify ways to reduce fraud in eBay’s stamp auctions. One result of that agreement was the formation of a Stamp Community Watch (SCW). Initial responses to the SCW program were negative, primarily because of administrative bottlenecks. Reports were being sent directly to eBay’s trust and safety group (Safeharbor) instead of SCW. Collectors reporting questionable non-US items saw no evidence that their reports were being acted on by eBay Customer Support, the SCW or the APS. At the end of July, board members contacted new eBay.com Stamps category manager [name withheld], who responded that he would check to see that there are no bottlenecks in the reporting process. (http://www.scads.org/ebay/ebay_aps.htm)

Later postings about SCW were more positive, and the SCADS website provided more precise information to help stamp collectors report information to the SCW. The website told sellers to avoid the eBay complaint link, directed sellers to the SCW link, and instructed sellers what to say. For example, the website advised stamp collectors to use the term fraud, not stolen image, because the latter might be misinterpreted as a copyright violation. This more cooperative relationship with authority suggests that, in terms of the stages of social disorganization theory, SCADS may have been moving from the stage of resolution toward a more interdependent community.

Relationship within community. SCADS had a more favorable reputation within the stamp trading community than the Vigilantes had in the high-priced consumer items community. Although SCADS received criticism for “meddling” in the auctions of many people, the SCADS website was considered to be a great source of knowledge on stamp fraud. A search on Google for “stamp collectors against dodgy sellers” returned several thousand hits, most from websites not affiliated with SCADS. A substantial portion of those websites reported news articles related to SCADS-identified fraud.

Relationship to criminals. Like Vigilantes, SCADS members were threatened by con artists. However, SCADS members were more cautious and mindful of authority’s ability to retaliate. SCADS members chose to disseminate information instead of breaking the law by interfering directly with suspected fraudulent auctions. As one leader of the SCADS community posted,

Contact after the auction is completed is also hazardous, because of laws which prevent third parties from interfering with the completion of a contract. I have heard from lawyers on the chats that in this case, TRUTH IS NOT A DEFENSE, and the harmed party can sue for the lost revenue. (George Kopecky, Discussion, July 9, 2002)

Traderlist

The third case is Traderlist, an anticrime community that combats fraud by listing on its website the IDs of good and bad traders, primarily of beanie baby bears and other Ty, Inc. products. Beanies are animal-shaped soft toys stuffed with plastic pellets (beans) and manufactured in limited quantities, which helps make them collectible items on resale markets. Beanies are manufactured with two identifying tags, a “tush tag,” similar to the tag found on the collar of clothing, and a heart-shaped “swing tag” affixed to an ear of most beanies. Beanie toys with intact tags are more valuable than those whose tags are removed or that show other signs of wear. Because they are produced in limited quantities and become collectors’ items, beanie toys are counterfeited and sold by...
To identify actions by fraudulent traders. Traderlist began as an e-mail newsletter after the founding member, Cindy Bungard, was defrauded. After launching her newsletter, Bungard received numerous e-mails from other defrauded victims, prompting her to move her newsletter to the Web. Other individuals volunteered time for various roles (e.g., to mediate disputes, authenticate particular beanies, give advice), and Traderlist became an established part of the Internet beanie baby auction community.

Clan control. Traderlist was so named because it maintained a list of good and bad traders. A person was listed as a good trader by first paying a small sum to be registered ($15 for the first year, and $10 for each year thereafter). Once a trader was registered, others were invited to rate the trader for each transaction. The good trader list thus worked in a fashion similar to the reputation mechanisms used in most Internet auctions and many fixed-priced markets. Unlike those reputation mechanisms, however, Traderlist was independent of auction house authority.

Traderlist’s bad trader list was populated by traders who had received complaints from other traders. When a complaint was received, Traderlist’s mediators investigated the allegation. If the investigation suggested a problem with the auction, the trader’s ID appeared on the bad trader list with an explanation and a copy of the original complaint. At no additional charge, Traderlist mediators also acted in the interests of the aggrieved party. For example, mediators contacted alleged perpetrators to negotiate terms of a settlement. If multiple victims were involved, mediators aggregated evidence and worked with police to apprehend the criminal. Police frequently refused to investigate isolated incidences of fraud involving beanie bears because the financial damages were deemed too small. The following exchange between a trader and a Traderlist investigator illustrates how the anticrime community worked:

June 21, 2002
Complaint filed by: [name withheld]
I need help with a bad trade. [Long description of trade follows] Please let me know what to do next or if you can help. Many thanks, [victim]

July 2, 2002
Cautionlist emailed [perpetrator] many times and although she received the email she deleted it without reading it. I put all the info in the subject about what the email was about so she would be aware it was a bad trader’s complaint. We both have aol [America Online] so I can check status if she reads my email or not. So knowing this she deleted it all before reading it. But she is well aware that I was investigating the complaints.

Attachment. As in the Vigilante and SCADS cases, members of Traderlist were strongly attached to their trading community and were regarded as trustworthy. For example, one Traderlist member used the name “Grandma Pat” and assumed the role of an advice columnist. Another was a recognized expert on beanie products, and owners mailed beanies to her to be authenticated for a small fee. The authentication process was described as follows:

A numbered certificate of authenticity will be assigned to your Beanie®. 3. The Beanie® will be placed with its certificate in a sturdy, Lucite case (shown in this picture). 4. The Beanie® case will be sealed with a tamper evident tape. Your Beanie® will be shipped back within 2 -3 business days of receipt of the Beanie®. (http://www.peggyg.com/authenticity.asp, undated)

Relationship with authority. Unlike the other two cases, members of Traderlist cooperated with authority. Traderlist members frequently assisted auction houses with investigations and respected their rules. In one incident, a purported con artist served Traderlist members with a court injunction, which forced the site to close down. Traderlist members resolved this issue through the courts, which overturned the injunction 2 months later.

Relationship within community. Traderlist members were mostly respected by the trading community. Defrauded buyers assisted by Traderlist were grateful for the opportunity to contribute names to the bad trader list. However, some segments of the trading community were potentially harmed by Traderlist. By giving more voice to defrauded buyers, sellers lost power, making some legitimate sellers uncomfortable. As one collector posted,

What worries me is that the “bad trader” lists have no set controls or criteria. A person could land on a bad trader list from one false complaint from a competitor trying to discredit him. (rec.collecting.cards. discuss, June 17, 1996)

Although Traderlist only contacted sellers when buyers explicitly requested contact, accused sellers were sometimes unable to complete a transaction for legitimate reasons. One listed bad trader provided the following information to explain his inability to return money to unhappy buyers:

Hello, I will be contacting PayPal this afternoon in an attempt to resolve [name withheld] case as well as a few others. My account has been locked with PayPal and they have made it very difficult for me to

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resolve these issues but I now have a contact there that is working with me directly to return their money... (Traderlist reply, May 10, 2002)

Some frauds were also conducted using the name of an innocent third party with a good reputation. In these frauds, the con artist usurped the name and reputation of an honest trader to convince shoppers of his or her legitimacy. Traderlist helped these honest traders with clarifying posts to its website, as in the following example:

[Companyname] in Georgia is in no way connected to [companyname] in Maine. [Companyname] in Georgia is a reputable company with positive feedback under [username] on eBay. (Traderlist moderator note, undated)

Relationship with criminals. The prominence of Traderlist members as community activists exposed them to retaliation by con artists. As described above, a purported con artist served Traderlist members with an injunction, which resulted in Traderlist members incurring legal expenses, which were partially offset by donations from the trading community. Undaunted, Traderlist pursued the case, which ended in the arrest and prosecution of the parties who served the injunction.

IMPORTANT UPDATE APRIL 12, 2005
[name withheld] get jail time in fraud case ...
Note from mediator, [name withheld].
Our readers will remember these are the people who had Traderlist removed from the internet for two months last year by threatening me and our web hosts with lawsuits. The above sentence concerns bankruptcy fraud. The [name withheld] still face federal indictments. The complaints against [company name withheld] are still being investigated, and records are being subpoenaed. (Traderlist.com posting)

Discussion

Our research sought answers to three questions related to the role of communities in Internet auction fraud. Table 6 presents these research questions again and summarizes the answers generated by our research.

In answer to the first research question, we found that communities play a critical role in managing Internet auction fraud by identifying and acting upon suspicious auction activity. The clan controls employed by anticrime communities cannot be easily duplicated by authorities. For example, community members who continuously observe trades in particular commodities can discover abnormal bidding patterns involving pairs of buyers and sellers, supporting the suspicion that the pairs are confederates in a shilling scam. Because addressing fraud requires such intimate knowledge, anti-fraud communities typically comprise members with strong attachments to the community. Transient members may perceive fraud as a rare and random occurrence and may be willing to accept trading risks due to their low trading volume. In contrast, strongly attached community members may earn their livelihoods through high volume trading. When they encounter con artists, attached members are motivated to form anti-crime communities and spread knowledge about con artists to other community members. Thus, anticrime communities not only possess intimate knowledge about fraud, but they also use that knowledge to protect their interests and to sustain the broader trading community.

In answer to the second research question, we found a variety of ways in which communities relate to authority. Although authorities lack the intimate knowledge required to identify potential fraud, they have capabilities that communities lack. For example, authorities may expel criminals from the community by suspending their trading and/or payment accounts. Our findings portray the relationship between community and authority at three levels of community development. In the dissatisfied community, Vigilantes defied authority by taking the law into their own hands. They intervened, often illegally, in auctions in order to spoil them. In this way, Vigilantes drove con artists away and protected unsuspecting community members. However, victimized traders often turned to authorities for restitution because Vigilantes could not assist them after fraudulent trades had been completed. The resolved SCADS community educated trading community members about fraud and worked in parallel with authorities rather than fully cooperating with them. In the stamp trading community, victims sought advice from SCADS yet also saw the auction houses as their primary source of restitution for completed frauds. Finally, the interdependent Traderlist community not only educated community members but also enlisted the help of authorities in investigating and prosecuting con artists. Traderlist’s capacity to assemble fraud cases and present convincing evidence to authorities made them an effective source of assistance. Our study thus affirms the associations between the stages of community development, community relationships with authority, and a community’s collective efficacy in managing crime (Nolan et al. 2004).

In response to our third research question, we draw practical recommendations about the management of Internet auction...
What mechanisms do communities employ to manage Internet auction fraud?

Communities generally are highly adept at monitoring crime. They are less able to enforce rules.

**Dissatisfied** communities may enforce rules by employing Vigilante tactics to take the law into their own hands.

**Resolved** communities do not attempt to enforce rules, but disseminate information on crime to the community.

**Interdependent** communities disseminate information. However, they can also call on authority to enforce rules.

How do community responses to Internet auction fraud relate to responses by authorities?

**Dissatisfied** communities contradict the efforts of authorities.

**Resolved** communities do not maintain close or consistent ties with authorities. They may disparage, cooperate with, and work in parallel with authorities on separate days.

**Interdependent** communities manifest collective efficacy by cooperating with authorities and sharing community knowledge with them.

What practical implications can be drawn for the management of Internet auction fraud?

Auction fraud can be addressed more effectively through the complementary efforts of community and authority. Authorities should cultivate cooperative relationships with online communities and facilitate the development of their collective efficacy.

fraud. The primary implication for practice is that authorities can be more effective if they cultivate cooperative relationships with communities rather than oppose them. Given that interdependent communities actively cooperate with authorities in combating crime, auction houses should seek ways to strengthen their interdependence with anticrime communities. For example, rather than banning SCADS from eBay because of its criticism of auction house policies, eBay could have worked with SCADS earlier. SCADS did not vanish after eBay’s censorship; it merely moved to independent sites on the Internet where it continued its activities as a resolved community. Auction houses can potentially overcome their resource and knowledge limitations by working actively with anticrime communities to manage Internet auction fraud.

This practical suggestion does not imply that clan control should displace formal control, or that communities should be the dominant group to address fraud. Rather, both clan and formal control should be employed to manage the shared interest in reducing Internet auction fraud. As Newman and Clarke (2003) advised, “Auction sites should do whatever they can to provide incentives for customers to participate in these online community watch sites, and make freely available all the feedback made concerning the records of all individual buyers and sellers” (p. 128). Because community members and auction houses both stand to benefit from the reduction of fraud, it seems worthwhile to harmonize their efforts and resources.

**Theoretical Contribution**

Our use of social disorganization theory to analyze online anticrime communities demonstrates that the theory, originally developed to analyze geographically bounded communities, can be adapted for the analysis of online communities. In extending the theory beyond its original domain of application, however, we highlight two areas where modifications to the theory are needed.

First, the literature on social disorganization theory generally considers criminals to be members of the community, in part because they share geographic territory with other members. Criminals are seen as deviant members who might be reformed, and the social disorganization literature emphasizes moral education of a community’s youthful members (Nielsen et al. 2005; Osgood and Anderson 2004). However, criminals were definitely not considered members of the online auction trading communities that we studied, and we noticed no attempts at moral education aimed at reforming criminals. Indeed, the goals of anticrime activists in online trading seemed to be expulsion of criminals and education of other
members. For these reasons, we suggest that criminals be theoretically positioned as an external threat to online communities rather than as members. Anticrime communities operating online should not be predicted to engage in moral education to reform criminals. Rather, we would expect their focus to be expulsion and/or punishment of perpetrators.

Second, the concept of attachment to communities defined by geographical boundaries is usually reflected by the length of time that members live within community boundaries (Kane 2002; Nielsen et al. 2005; Schulenberg 2003). However, online communities are not spatially bound, and members may move freely between communities or belong to several communities simultaneously. In the absence of physical barriers limiting the mobility of community members, the concept of neighborhood attachment should be modified to accommodate the conditions of online communities. We suggest that attachment in online communities has at least two dimensions: a temporal dimension, reflecting the length of time that an individual has participated in the community, and a value dimension, reflecting commitment to the normative interests of the community. Empirically, the temporal dimension of attachment could be determined by the length of time a member has actively participated in the community, as indicated by the date of initial registration or the date of first postings on community bulletin boards. Ongoing activity could also be assessed by looking at the level of trading volume and number of reputation scores obtained.

However, such indicators would not necessarily rule out con artists, especially those patient enough to establish a favorable track record in preparation for a future “sting.” Thus, a second dimension is also needed to define attachment of members to online trading communities. Commitment to the values shared by a community is evidenced by the character of one’s activity over time. Although traders are assumed to be self-interested insofar as they seek personal objectives, self-interested traders also share values that trading processes be fair, honest, and relatively transparent. Such value positions could be assessed by looking at member activities that align with community norms. For example, members who participate actively on bulletin boards or who play specific roles are likely to be more attached than other traders. Traderlist’s advice columnist, “Grandma Pat,” and others who compile chronologies of a suspected criminal’s activities all play roles that are not only consistent with community values, but also help to perpetuate those values.

Taken together, the temporal and value dimensions of attachment would appear to align with social disorganization theory’s interest in identifying non-transient members with definite stakes in the future of the community, whether or not they share geographical space.

Further Insights

Beyond these extensions to social disorganization theory, we draw two additional insights from our analysis into issues that are not clearly addressed by the theory: the relationship between clan control and community knowledge, and the impact of commodity characteristics on community control mechanisms.

As discussed above, our results focus directly upon the capacity of communities to exercise informal clan control in their efforts to govern their own affairs, with or without cooperation from authorities. In exercising clan control, community knowledge plays an important role. We have shown how communities are effective at monitoring criminal activity and producing knowledge about fraud that authorities would have neither the time nor expertise to produce. This base of knowledge is an important factor in making clan control effective. In addition to the shared values that most scholars emphasize when discussing clan control (Adler and Kwon 2002; Ouchi 1980; Silver and Miller 2004), we suggest that clan control becomes more effective when based upon community knowledge. This insight is consistent with earlier renditions of social disorganization theory, in which community knowledge is referred to as fugitive knowledge, in contrast to the codified knowledge held by authorities (Hill 2004).

In each of the cases in our study, community knowledge allowed community members to formulate specific strategies for combating con artists. Vigilantes spent countless hours tracking suspicious activities, which allowed them to target specific auctions to spoil or expose. Without the knowledge to choose targets, Vigilante tactics would have been reckless and inconsistent with the process of orderly trading. Likewise, stamp experts in SCADS and beanie toy experts in Traderlist drew from deep wells of knowledge to distinguish the risks inherent in bidding for items online. In both cases, community knowledge supplemented shared values in effecting community governance.

Second, it is worthwhile to speculate about the relationship between community action and the characteristics of items traded in Internet auctions. SCADS and Traderlist were similar because they traded in collectible items. In the stamp auctions, the supply of valuable stamps is limited by the scarce occurrence of interesting misprints and the ignorance about valuable items by noncollectors, who might discard them. In the beanie toy auctions, short production runs make
each product more valuable. In auctions for these collectible goods, we saw communities actively producing and sharing knowledge about the products being traded. By contrast, Vigilantes operated in auctions for high-priced consumer goods, which are not collectible. For the Vigilante community, knowledge about trading patterns that seemed fraudulent was more important than knowledge about the commodities themselves. It may be that Internet auction fraud takes on separate characteristics in different trading communities. In response, anticrime communities for separate product types may also use distinct tactics to combat fraud. Further research on the relevance of product characteristics could contribute additional empirical evidence to support our speculations.

Overall, our research offers novel extensions to ideas originally formulated for geographically bounded communities to the realm of online auction communities. Social disorganization theory’s core concepts appear to be applicable to both geographically bounded neighborhoods and to online communities. In both settings, anticrime communities identify criminals and oppose their activities using such mechanisms as vigilante justice, community education, and cooperation with authorities. In both settings, communities generate knowledge that authorities generally lack. Our analysis suggests that clan control based on community knowledge is an effective way to manage Internet auction fraud, especially when combined with the resources and power of formal authority.

Conclusion

This paper has addressed a significant contemporary problem that arises as an unintended consequence of using information technology to mediate economic transactions in auction markets. The innovative use of Internet technology to transcend physical barriers of geographical space inadvertently establishes conditions that can be exploited by criminals intent on profiting from fraud (Newman and Clarke 2003). The high degree of anonymity and low barriers to entry and exit that characterize Internet auctions allow perpetrators of fraud to assume false and multiple identities, create deceptive information, transact fraudulent deals, and escape with little trace.

The approach typically used to analyze Internet auction fraud in IS research is to explore the direct relationship between the buyer and seller. We have widened this perspective by applying social disorganization theory, which deals with community responses to crime. As Adler (2001) and others have observed, community governance may assume greater importance relative to markets and authorities in an information economy. However, community governance does not replace other modes of governance, so it becomes important to understand how modes of governance operate together. Our analysis sheds light on the important relationship between formal and clan control in combating Internet auction fraud.

We use social disorganization theory because of its specific focus on community development in relation to crime management. We empirically identified three separate levels of community development, each with a different relationship to authority in managing Internet auction fraud. Our findings extend the theory’s relevance beyond geographically bounded neighborhoods into the realm of unbounded online communities. We suspect that social disorganization theory could also be exploited to analyze nonmarket online communities, such as those engaged in open source software development or entertainment. Although the presence of crime is not a primary concern in nonmarket communities, fraudulent misrepresentation of information may produce other adverse consequences. Social disorganization theory, as modified for online communities, provides insights into how fraudulent misrepresentations might be managed through community action.

Our analysis complements analyses drawn from individual-level theories by focusing on community efficacy in responding to fraud through clan control. Clan control has been acknowledged persistently in the literature as a means to mitigate opportunism in markets (Adler 2001; Ouchi 1980; Williamson 1996), but the relevance of these ideas to Internet auction fraud has yet to receive close study. Our analysis shows how clan and formal control may function independently as a hybrid form of governance over economic transactions.

Unlike most IS research on Internet auction fraud, our empirical approach has been intensive, investigating relatively few auction communities in depth using qualitative data analysis. This approach has both strengths and weaknesses. The primary strength is the ability to explore questions that have not been addressed previously, such as how online communities respond to crime and how they relate to formal authority. The primary weakness of intensive research is the inability to generalize from the few cases studied to the larger population of online auction communities. However, to the extent that our analysis supports a theoretical understanding of community roles in Internet auctions, we make a more general theoretical contribution applicable in comparable settings (Lee and Baskerville 2003).
A second limitation concerns our inability to test the hypothesized causal relationships in social disorganization theory. As our study lacks sufficient range of variation across cases to test hypotheses, this was not our objective. Indeed, our sampling criteria led us to select communities that were prominent in the fight against Internet auction fraud, thereby restricting the range of variation. This sampling strategy was chosen intentionally so that we could achieve depth in our understanding of anticrime communities at different levels of development. Clearly, the type of qualitative analysis that we employed is not suited to variance analysis (Mason 1996).

Finally, our research suggests the benefits of greater cooperation between anticrime communities and authority, yet we are unable to provide much insight into the antecedents of community efficacy. Future research could examine the conditions leading to the formation of more advanced, interdependent communities. We suspect that the relationship between communities and authority may be fragile, as evidenced in the case of SCADS’s banishment from eBay bulletin boards. This move by auction authorities may have retarded SCADS’s development toward a more interdependent relationship with eBay. Our data suggest that banishment had lingering effects, leading us to classify SCADS as a resolved community, perhaps vacillating between conflict and cooperation with authority. Future research could study anticrime communities over longer periods of time, so that the process of their development could be observed and understood more completely.

As advances in information technologies enable the creation and success of business models such as Internet auctions, researchers should draw from a broader repertoire of theory to address issues pertaining to undesirable consequences such as fraud. Given the importance of community governance in the emerging knowledge economy (Adler 2001), appropriate theories of community need to be identified and applied to contemporary issues such as managing fraud and other crimes. Communities can play a viable and effective role in governing their own affairs, whether played out in geographical neighborhoods or online. Our application of social disorganization theory to Internet auctions represents a step toward more complete comprehension of the capability of online communities and auction authorities to manage fraud.

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