Boundaries, Trust and Reputation in Virtual and Illicit Markets

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ABSTRACT

The current narrative in criminology is that drawing behavioural parallels between groups observed in virtual markets and groups within illicit markets is hampered by the lack of legal frameworks to outline and describe criminal activities. Without a legal framework it is a struggle to distinguish normative behaviour from deviant behaviour. However, this paper argues that rather than lacking legal frameworks, virtual worlds have an extensive set of formal and informal social controls that approximate the legal and social regulations placed on illicit markets in the real world. Both the virtual market and illicit markets are punctuated by their use of violence as a tool to resolve disputes, protect markets and enforce financial transactions in the ongoing absence of legal regulation. Therefore, that if the criminological narrative can be adapted to recognise the parallels between the two markets, then the opportunity exists to study the behavior of individuals and groups in a controlled and well observed setting contained in virtual markets. This will provide insights into the structures and relationships between illicit market groups in the real world.

Keywords

Legal regulation, victimisation, violence, player-driven economies, EVE Online, harm, behavioural boundaries

INTRODUCTION

Criminologist are currently underutilising virtual markets (found within in Massively Multiplayer Online Games (MMOG)) to study real world organised crime. Within criminology, much of the emphasis has been placed on cybercrime due to it being clearly defined within the legal frameworks. However, an opportunity exists to utilise virtual markets in examining game player activities to identify equivalences between their actions and those of real world criminals. This has remained under researched due to virtual markets' lack of clear criminal behavioural definitions and formal legal frameworks. For example, clearly distinguishing between gameplay crimes and normal

(or non-criminal) gameplay. Furthermore, the current criminology narrative suggests that without these legal frameworks, MMOG are left as lawless anarchic frontiers where player behaviour is uncontrolled and unconstrained. This paper argues that far from being archaic frontiers, MMOG contain a number of regulatory mechanisms specific to player behaviours. Furthermore, MMOG are the ideal research environment to model the activities of real world self-organising groups participating in violent illicit markets for profit. Gaming research has found that in player-driven economies violence is used as a tool for market protection, financial transaction enforcement, and dispute resolution. Likewise, criminology research as also found these three conditions in real world illicit markets. Therefore, an argument can be made that parallels can be drawn between these two worlds.

The first section of this paper talks about the presence of law-like behavioural regulation in virtual worlds that encapsulate virtual markets. These law-like regulation mechanisms act like real world laws describing the situations where regulatory agencies will step in when non-normative behaviour is detected. This is equivalent to when illicit market groups draw enough attention from regulatory agencies to warrant a regulatory intervention. Otherwise, given the covert nature of the illicit market group's activity the regulatory agencies have no direct influence on their activities.

Second, this paper outlines that the informal social regulation of behaviour inside virtual market groups is based on trust and reputation. Trust and reputation are essential to the operation of both virtual and real-world illicit markets given the distinct lack of formal legal recourse to resolve disputes amongst rival groups. In any market where monopolies of force are held by entities other than the legal government, then violence is used as a tool to resolve disputes, protect markets, and enforce financial transactions. Trust between individuals and groups is essential for business to take place. Concurrently, a group's reputation for both trustworthiness, and when needed, violent responses to transgressions, is essential for a continued existence.

BEHAVIOURAL BOUNDARIES

One of the primary critiques aimed at using virtual worlds for the study of criminal events and processes is the lack of formal legal frameworks that both define and control crime (Whitson and Doyle 2008, Lehdonvirta 2010). This critique focuses on the perceptions of the lawlessness of virtual worlds. Players are seemingly free to victimise

and otherwise harm other players without regard to consequence or conscience. From a legalistic perspective, where crimes are defined as actions that are against the law, the lack of formal legal frameworks appear to leave virtual worlds as ungoverned and lawless frontiers. Without a formal legal framework to define and regulate illicit activity the ability to make comparisons between permitted behaviours in the virtual world and illicit behaviours in the real world is compromised (Mnookin 1996, MacInnes 2006, Bradley and Froomkin 2004).

Lawyers and legal theorists often insist that there are distinct differences between the regulatory effects of real world laws and any attempt to impose a regulatory framework in virtual worlds. In the real world, formal regulatory frameworks reflect the values of the society imposing the framework. It is the nature of the society and the nature of its disputes that shape any regulatory response (Lessig 2006). The nature of disputes in virtual worlds is over imaginary goods and imaginary reputations. Therefore, any response will be based on a regulatory framework that is a reflection of an imaginary society that will somehow have to impose imaginary regulatory measures (Mayer-Schonberger and Crowley 2006, Fairfield 2008). However, a deeper examination of virtual worlds reveals that far from being a lawless frontier, there are many more mechanisms in place regulating behaviours than appear to the casual observer. That while behaviours are permitted, this does not mean that they are unregulated, nor are they seen as having little consequence (Lessig 2006).

The apparent lack of formal laws stems from the need for game developers to make virtual worlds appealing, immersive, and engaging for potential players over significant periods of time. From a multiplayer game design philosophy point of view, game developers must struggle to find the balance between giving players enough freedom to act and presenting a virtual world that is equitable and enjoyable for all players (Hunter and Lastowka 2003). Game developers must present a game world that permits interactions (both positive and negative) between players. At the core of multiplayer games is some form of competitive interaction between players. As game design and processing capabilities have improved over time these competitive interactions have increased in complexity. Similarly, the increasing complexity of these interactions has driven the need for players to be given the freedom of action to adopt equally complex strategies to succeed in competitive interactions (Salen 2007, Asbell-Clarke et al. 2012).

Basic game theory suggests that in order to maximise returns players prefer (where co-operation is possible) to adopt a collaborative approach to their actions (Aumann 1989). Hence, MMOG are often designed to incorporate mechanisms to support groups of collaborating players. Balanced against these mechanisms for cooperation is the need for a robust way of facilitating competition that is rewarding for the victor but not overly punitive for the loser (Salen 2007). While game developers may have the best intentions of providing a game mechanic that is heavily focussed on aspects of equity, cooperation, and trust, players demonstrate the same propensity for anti-social behaviours and social frictions that exist in the real world. It seems virtual universes are not immune to greed and schadenfreude. The virtual universe offers some of the same motivations and freedoms to use aggression as a tool to solve conflicts as the real world (Przybylski, Ryan, and Rigby 2009, Lessig 2006, Whang and Chang 2004).

However, if the same propensity for aggression and social frictions are imported into the virtual universe, and there appears to be a lack of formal legal boundaries and punishments; why are these games not chaotic anarchies? Simply put, game developers and the majority of players do not want chaos and anarchy (Yee 2006b, Whang and Chang 2004). A player that is under constant assault from others will quickly leave the game. Game developers are concerned with keeping paying customers. Therefore, game developers are equally interested in controlling anti-social behaviour as their real world legal counterparts (Salen 2007, Meades 2015). This allows for a comparison to be made between aggressive acts in the virtual world and aggressive acts in the real world. In the real world, illicit activity is not prevented by having laws, it is simply regulated. Legal and social processes also seek to mitigate the harms associated with illicit activity. Game developers approach unwarranted aggression in the same way; looking for ways to regulate behaviours and mitigate harms (Salen 2007, Lessig 2006, Lessig 1998, Risch 2009, Grimmelmann 2004).

Game developers approach the control of the game world in two ways. First, developers use the game code to control player behaviour (Lessig 2006). Second, developers use End User Licence Agreements (EULA) and Terms of Service (TOS) to outline acceptable use of the game code (Kunze 2008). Additionally players themselves develop their own social norms and informal sanctions that are upheld within the context of the game and do have effects outside of the game (Woodford 2009).

The principle defining feature of any virtual universe is that it is based on a set of instructions that describe a complex series of mathematical operations performed by a computer processor. In simple terms, these instructions and operations are usually referred to as "code" (Lessig 2006). A virtual universe's code contains all the information required to produce a fully functioning virtual universe. Game developers coding a new virtual universe are placed in the unique position of having to code fundamental physical laws and yet having control over how these fundamental laws operate (Salen 2007). To illustrate, game developers often need to code gravity-like behaviour for objects and players inside virtual universes. Not only that, they must also code the parameters under which the gravity-like behaviour operates. The code to control gravity-like behaviours is extraordinarily complex. Accepting that game developers have near omnipotent power to alter the fundamental mechanics of a virtual universe, they must still operate under an important caveat; the virtual universe still has to make sense (Jensen et al. 2002). A well designed virtual universe is able to be intuitively interacted with by players without them having to re-learn alternative basic physical principles (Heudin 1998).

Game developers will alter the parameters of the virtual physical universe to control undesirable or unintended physical interactions with the virtual universe. Being able to control the parameters allows programmers to alter fundamental operations that in the real world remain fixed and constant. Regulation of anti-social behaviour often starts at the physical level (Heng, Wen, and Huey 2011, van Kokswijk 2010). To illustrate, EVE Online provides each player with a private location to store items for future use. This private location is only accessible by the player themselves. This effectively prevents the crime of burglary from ever occurring in the game[1] (CCP 2015b). The game's code simply disallows the circumstances of the crime of burglary from ever occurring. This type of code-based regulation is commonly used to regulate anti-social behaviours that rely on interactions with the physical world rather than interpersonal interactions. In these cases the code is the law. Uniquely, as opposed to the real world, this type of regulation is absolute and the 'law' actually does prevent crime rather than regulate it (Lessig 2006).

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[1] This does however provide opportunities for other types of crime to occur. Theft of virtual property by using stolen log-in data remains a possibility.

The same design consideration applies to social interactions in a virtual universe. Game developers have to code a set of rules that control the way in which players are able to interact with one another and other virtual inhabitants (Ducheneaut et al. 2006b, Cole and Griffiths 2007). Game developers are once again in the same position of having to code a comprehensive and intuitively understood rule set while at the same time having the freedom to define the parameters under which the rules operate. Unlike the physical universe which most often deals with constants, the social aspects of virtual universes have to support the vagaries of sociology and human psychology (Ryan, Rigby, and Przybylski 2006, Ducheneaut et al. 2006b).

Game developers use code in several ways to shape player behaviour to be more manageable and predictable. One of the easiest ways of addressing anti-social behaviours in virtual universes is to remove or at least mitigate the harm associated with victimisation (Sellers 2006). In doing this, game developers recognise that while part of the game, victimisation is also causing harm (Eklund and Johansson 2013). Harm is a principle that is accepted in the real world as underpinning legal systems. Legal systems are expected to step in to prevent harm from happening at the expense of an ordinary citizen's liberty to act (Eser 1965). It is here that game developers use code-based solutions to regulate behaviours and mitigate harms. In the first instance, game developers can disallow certain actions similar to the way they can alter physical interactions. Harm can be prevented from ever happening simply because players cannot perform the necessary actions for the harm to occur (Barnett and Coulson 2010, Eklund and Johansson 2013, Sellers 2006). To illustrate, EVE Online does not allow for players to physically sexually assault each other. There are no actions that players can take for a physical sexual assault to take place. The capacity to perform these actions has not been coded into the game (CCP 2015a, b).

In the second instance, game developers will need to allow anti-social player actions as essential to the purpose and enjoyment of the game. Again recognising that victimisation is something that individuals do not want to experience, game developers will look to mitigate the harmful consequences of victimisation (Yee 2006a, Boyle et al. 2012, Yee 2006c). This may not directly deter the anti-social behaviour but it does fulfil one of the roles of a functioning criminal justice system in respect to restitution and restoration (Birks 1985). As an example, EVE Online has several mechanisms for mitigating harm from victimisation. No one ever really dies; instead they are reanimated

in a cloned version of themselves that has been in storage for just such an occasion. More often only the vessel that the player is piloting is destroyed and the player can escape intact in their escape pod. In the context of the game this shifts the nature of the assault and/or death from a physical harm to financial and temporal inconvenience. Players need to pay for the replacement of vessels and clones and for costly vessels it may take some time to earn this money (CCP 2015b, a).

Additionally, because the virtual universe is still an interface between real people game developers must also consider that there is applicable real world legislation that regulates anti-social behaviours that cannot be ignored. Game developers use End User Licence Agreements (EULA) and Terms of Service (ToS) to outline both their responsibility and the players' responsibility to comply with the relevant legislation (Reynolds and de Zwart 2011). While the majority of the content of EULA and ToS is focused on protecting the game developers and publisher's intellectual property rights, there are clauses that protect players from hate speech and repetitive bullying behaviour (which includes stalking and harassment) (Kunze 2008). The protections from these forms of anti-social behaviours extend into the virtual universe as well. Game developer's reserve the right to ban access to the virtual universe in the case of serious or repeated incidences of offending (Roquilly 2011).

Critics argue that the interpretations of the real world laws within EULA and ToS are difficult to objectively apply to the behaviours that are allowed in virtual universes (Quinn 2009, Harbinja 2014). In situations where repeat victimisation of players is allowed, a decision must be made as to when the repeat victimisation ceases to be 'gameplay' and becomes harassment. The aggressor in these circumstances may argue that the game allows repeat victimisation and that the role-playing aspect of the virtual universe provides a context for the repeat victimisations, therefore, excusing anti-social behaviour as part of the game (Adrian 2009, 2010).

Malicious repeat victimisation can also be problematic to identify in virtual universes (Brar 2012). For victims, a misunderstanding of the gameplay mechanics and repeated poor gameplay choices can lead to circumstances where the player is repeatedly victimised by multiple different aggressors. While repeated victimisation can leave players discouraged, it is seen as a normal part of gameplay until the player learns how to play the game and be successful (Achterbosch, Miller, and Vamplew 2013). However this

does not excuse multiple repeat victimisations by a single player or group of players intent on spoiling the gameplay experience for the targeted player (Achterbosch et al. 2014). The intent of the player or players is an important factor in deciding where the line between legitimate gameplay and undesirable gameplay is drawn. ToS often contain 'spirit of the game' catch-all clauses to deal with any ambiguities that arise (Achterbosch et al. 2014, Achterbosch, Miller, and Vamplew 2013). As comparable with the real world, the intent behind the actions of individuals in the virtual universe is important in determining whether a behaviour is seen as a normal part of everyday life (gameplay) or as a problematic behaviour that needs to be more formally regulated (Achterbosch et al. 2014, Carter 2013).

EULA and ToS remain in place in virtual universes to outline both the limits of freedom of action for players and as the interface between real world legal systems and virtual universes. Some limitations are expected to be placed on player behaviour to ensure the smooth and uninterrupted operations of the virtual universe. There are also behaviours that remain illegal in both real and virtual spaces that game developers are legally or morally obliged to act on (Quinn 2009, Harbinja 2014, Reynolds and de Zwart 2011, Kunze 2008). In the real world there is a defined point where the criminal justice system is obliged to step in to limit individual behaviour because of the behaviour's deviance from the accepted norms and laws (Shavell 1993). EULA and ToS provide the same defining point for virtual universes. The governing documents and code of virtual universes' serve a similar purpose to real world legal frameworks in identifying and distinguishing that the intent of any action is a deciding factor in its legality or illegality. Additionally, the documents and code also seek to mitigate the harms suffered by victims in the same intended way the real world criminal justice system works.

REPUTATION AND TRUST AS SOCIAL CONTROL

Describing what normative gameplay is needs to be defined within the social and physical context provided by the virtual universe's environment and mythos (Björk 2010). Similarly describing what normative behaviour is in the real world is defined within the social and physical context of the society that the behaviour takes place in (Lessig 2006). Understanding that there is a lack of formal systems of governance and regulation in virtual universes (notwithstanding code and governance documents), much more emphasis is placed on informal behavioural controls by the players that associate in

games. For virtual universes much of the behaviour observed is played out within a framework of the actions allowed by code, the limits imposed by the governance documents and the social boundaries expressed by the players (Sicart 2009, Björk 2010).

The lack of formal systems of governance and regulation means that player reputation takes on extra meaning in virtual universes (Woodford 2009). Complex virtual universes designed to engage players for an indefinite time period will not have a traditional scoring or ranking system as found in short term or casual competitive games. Long term objectives are left open-ended to encourage continued engagement. The absence of a traditional way of scoring or ranking players shifts the emphasis for players from accumulating the most 'points' in the short term to the achievement of long term reputational goals (Bartle 2012, Yee 2006c, a).

Virtual universes incentivise the achievement of reputational goals by adding a system that acknowledges the previous actions of a player and provides them the means of displaying these achievements for others to see (Huang, Hu, and Jiang 2008). Virtual universes provide players with unique reputational identifiers, such as player titles or special items, which act as a shorthand visual way for other players to assess what reputation a player may hold within the game and amongst the player's immediate playing group (Bates 2011, Medler 2009).

To illustrate, EVE Online has a wide range of unique reputational identifiers that are visible to other players that indicate a player's reputational status within the virtual universe. Players are assigned a security rating between +10 and -10 which is reflective of in-game behaviour; with anti-social behaviour (such as attacking other players) shifting the rating towards the negative end of the scale. Players may also receive rare or unique vessels for winning in-game tournaments or as gifts to mark significant events and milestones in the game. Ownership and use of these unique vessels is indicative of skill and length of time playing the game (CCP 2015a, b).

Appearance and capability are closely related in virtual universes. Externally appearance and player information is a symbolic representation of a player's capability to play the game (Tronstad 2008). The vision presented to other players is a way for those players to assess the capabilities of that player. The player is able to change their external or public appearance as their capabilities to play the game increases. Increased

understanding of the games mechanics, better integration into the social aspects of gameplay, and development and growth of in-game skills are all reflected in the appearance and persona that the player is able to project to others (Baylor 2009, Davis et al. 2009).

This visual shorthand allows players to make judgements on how capable another player may be, how well connected to other players and groups they are, and how likely they are to respond to threat (Ducheneaut et al. 2009). This semi-formal way of quickly identifying the social status of another player establishes a set of informal rules and expectations around how players deal with each other (Ducheneaut et al. 2006a). These rules are further developed by informal agreements made within the community of players and also through communications outside the virtual universe via the metagaming aspect of online games (Call 2012).

The same link between appearance and capability is apparent in illicit market groups as well. For many groups there is an ongoing ritualism and symbolism associated with group membership (Adamoli et al. 1998). Ritualistic displays of loyalty and sometimes elaborate initiation rites are used to establish an ongoing hierarchy and reinforce bonds of loyalty amongst group members (Hagan 2006). Symbolism is used to quickly identify group affiliation and rank within organisations. The selected symbols also act to project not only group affiliations but group purpose and the implied threat to rivals. This is can be seen in, for example, Japanese Yakuza organisations where there are strong bonds of ritualised obligation and loyalty from junior members to more senior members. As well as strong symbolic group identification through traditional tattooing or Irezumi (Hill 2014).

Considering the emphasis on reputation and reputational goals in long term multiplayer games the informal arrangements and rules based on reputation developed by the player base act to regulate behaviour (Salen and Zimmerman 2004). To illustrate, territory controlling groups in EVE Online may allow unallied (non-rival) players to transverse their territory if they do so in an unarmed vessel. There is an informal understanding between non-rival groups that there is a necessity to allow unhindered travel in certain circumstances and as long as a player poses no threat that the travel should be allowed. There is also an expectation that these rights would be reciprocated (CCP 2015a, b, Gianturco 2016).

There would be reputational consequences for groups and individuals who break these informal agreements. Breakdown of reciprocal rights between groups can lead to interference in the everyday activities of each group further increasing any existing tensions. From reputational point of view denying reciprocal rights of travel without the presence of a reasonable cause belli can be seen as untrustworthy behaviour by other non-involved groups and individuals (Bardzell and Odom 2008, Lastowka and Hunter 2004, Enberg 2016). Additionally there is cause for concern that the existing tensions might spill over into limited conflict between the concerned groups. Unresolved conflicts may also escalate to more groups than initially involved as mutual protection arrangements come into effect. Further the general disruption of trade and other activities caused by more widespread conflicts would be considered detrimental to the virtual market overall (Castronova 2001).

Gaining a negative group reputation for staring a conflict or being needlessly antagonistic in a virtual market environment that is based on trustworthiness would hinder the viability of the group's continued participation in the virtual market (Dodson 2006, Enberg 2016). No longer being able to conclude financial and material agreements between parties would limit the antagonistic group's ability to secure both currency and raw materials to pursue their interests. Further, the likelihood that other alliances would form coalitions to deal with a disruptive alliance or corporation would increase (Hsiao and Chiou 2012, Steinkuehler and Williams 2006, Ducheneaut et al. 2006a).

From an individual player point of view, an aggressive player within a group's membership might be considered both an asset and a liability. A specialist fighter or enforcer can be an asset to the group due to their ability to project threat either through direct action or reputation (Ducheneaut et al. 2006a, Yee 2006c, a). However, an aggressive asset is only as good as their ability to work co-operatively with others to achieve collective goals. Failure to follow the group's collective goals may have ongoing consequences. An ambitious aggressive player may be the cause of internal conflict and a descent into internecine warfare (de Zwart 2009). A less ambitious player who is more interested in indiscriminate aggression is a liability to the group as well. Indiscriminate violence risks causing increased tensions between otherwise neutral groups. A player who is solely interested in random violence may find themselves excluded from the group altogether (Shay 2015, Johnson 2014, Carli 2007, Gianturco 2016).

The social aspect of virtual universes is something that is both a vital component that drives the game forward and a major selling point to attract players. Failure to play well with others as a group or as an individual effectively places that group or individual outside the informal social and reputational structure (Yee 2006a, Ducheneaut et al. 2006b, Ducheneaut et al. 2006a, Yee 2006c). Once isolated, players and groups may struggle to regain lost reputation. Failure to reintegrate back into the social and reputational structure of the core of serious player groups places limitations on the way the isolated player or group may play the game. The isolated player or group is excluded from lucrative player-controlled areas by threat of attack-on-sight orders (Verhagen and Johansson 2009, Johansson and Verhagen 2009). Cut off from sources of ready income and under constant threat of attack leads to groups being disestablished or individuals needing to switch to an alternative character. For individuals switching to an alternative character there are costs as the alternative may not be as well developed as the isolated character (CCP 2015b). However switching does allow for changes to be made in playing style and hence better integration back into the social and reputational order. It is easier to establish a good reputation from a clean slate than it is to restore a damaged one (Williams, Kennedy, and Moore 2011, Williams et al. 2006, Ducheneaut et al. 2006a, Yee 2006c).

Overall the informal social arrangements between players and player groups introduces a level of expectation of what are proper and what are improper behaviours (Suzor and Woodford 2013). The informal social controls imposed through a system of symbolic reputational indicators and word-of-mouth metagaming reputations work exactly like informal social controls in the real world (Verhagen and Johansson 2009, Anderson 2000, Gianturco 2016, Page 2016). Due to the symbolic representations of reputation and the cryptic nature of word-of-mouth discussions of reputation there is some similarity to social controls found in illicit market groups (May and Hough 2004).

CONCLUSION

While it can be acknowledged that the lack of formal governance and regulatory bodies in virtual universes creates a more permissive attitude towards the use of violence as a tool for dispute resolution and market protection this is not dissimilar in nature to the behaviours that might be observed in real world illicit markets. The virtual universe's code, regulatory documents and informal social controls create a rational decision making

framework that has similarities to a real world illicit market (Lessig 2006). Players are placed within this decision-making framework with an expectation to make rational decisions based on the scenario presented to them. Information and feedback from the environment shape and canalise players into lifestyles (or perhaps more aptly roles) which contain the routine activities and exposures to opportunities both for crime and victimisation (Hindelang, Gottfredson, and Garofalo 1978, Felson 1998).

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