EVALUATING "REALISTIC EVALUATION": EVIDENCE FROM A STUDY OF CCTV

by

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Abstract: This paper examines a new evaluation methodology developed by Pawson and Tilley (1997) that they term "realistic evaluation." A small-scale evaluation of closed circuit television (CCTV) in two retail stores is used to illustrate the practical use of the methodology and to demonstrate the strengths and weaknesses of this approach. The study offers guidelines to other researchers about potential pitfalls in conducting a realistic evaluation. Some conclusions are presented about the possible impact of CCTV within a retail environment. The paper concludes that the Pawson and Tilley methodology shows great promise for future evaluations. It highlights the point that an apparent failure to affect crime levels (using statistical measures) may still generate other benefits if the research is designed within the realistic evaluation framework.

INTRODUCTION

Evaluations of crime prevention measures have been characterised by an almost frantic search for what "works." This proliferation of research has examined all aspects of crime prevention, particularly measures such as closed circuit television (CCTV), electronic article surveillance (EAS), Neighbourhood Watch and so on (Bamfield, 1994; Beck and Willis, 1994, 1995; Brown, 1995; Gill, 1994, 1998; Handford, 1994; Husain, 1988; Laycock and Tilley, 1995; Short and Dit-

ton, 1995). Over the last few years there have been growing calls for a change in the way evaluations are conducted (Ekblom and Pease, 1995; Tilley, 1993). This is partly a result of the disillusionment that accompanied evaluations of various high-profile crime prevention measures. Often these studies produce conflicting results (Davies, 1996; Graham et al., 1996; Home, 1996; Short and Ditton, 1995; Tilley, 1997). Some studies conclude that a particular measure may have had an impact, whilst others are unable to corroborate such results. From the morass of conflicting results it has become all too easy to conclude that "nothing works."

Recently, a different approach to evaluation has been developed by Pawson and Tilley (1992, 1997) that they term "realistic evaluation." This approach differs from previous evaluations by stressing the need to evaluate crime prevention measures within their "context," and to ask what "mechanisms" are acting to produce which "outcomes." Previous evaluation methodologies have tended to focus primarily on the outcome of an evaluation to the detriment of the mechanism and context aspects. Few studies have as yet used this new approach, though it was used retrospectively to examine car parks and CCTV (Tilley, 1993) and has been used partially by other studies (e.g., Brown, 1995). This paper focuses on a small-scale evaluation of CCTV in two retail stores to illustrate how this methodology might be applied, and to demonstrate possible strengths and weaknesses of this new approach.[1]

Realistic Evaluation and Context

Evaluating any crime prevention measure is notoriously difficult. Policymakers and practitioners want quick decisions about whether a measure has been "effective" or has reduced crime, while academics stress the need to do things properly, which takes time. Over the last few years there has been a growing awareness that evaluations should attempt to determine *how* the crime prevention measure has had an impact. It is no longer enough just to say that it did have an impact. Hope (1991:242) touches on this point when he says "It is not sufficient merely to count crime; the value of crime pattern analysis for prevention lies in being able to examine the context in which incidents take place so as to make inferences about how such crime might have been prevented and how similar ones might be avoided in the future."

It was from this growing realisation of the importance of the context in which a crime prevention measure is placed that led to the development of the realistic approach. Realistic evaluation is really a

consideration of how a measure affects something, rather than simply whether it works or not. Pawson and Tilley (1997) have broken this question down into three main investigative areas. First, is the context in which the system is expected to impact. This relates to the conditions needed to trigger mechanisms to produce particular outcome patterns. Second, is the 'mechanisms' through which the system might achieve its impact. This relates to what it is about the measure that might lead it to produce a particular result in a certain context. So, in the case of CCTV, one example of a mechanism could be that CCTV decreases criminal activity by helping staff to observe more offenders. Finally, the "outcome" of introducing the measure is explored. This relates to the observed result of introducing the measure, that is, what impact it has had. This is the one area that most previous evaluations have focused almost exclusively on by analysing crime or loss figures. Pawson and Tilley suggest that the three elements of context, mechanism and outcome should be related in the form of a pseudo equation — Context + Mechanism = Outcome — that they term a CMO configuration. This can then be tested by gathering data appropriate to each of the three elements.

The main strength of the realistic approach is its attempt to link specific contexts to mechanisms in a way that has perhaps not been considered quite so thoroughly before.[2] This has important implications for businesses. The ability to extrapolate accurately from one evaluation to decide matters of security policy on a company-wide basis is both important and costly for businesses. Sometimes, results from evaluations are used by managers to assess how appropriate a particular technology is to solve their crime problem. More often, there is no adequate evaluation before such a decision is made. Yet there is no guarantee that the results of one study will have any relevance for a different location or context. The commonsense observation that what has an impact in site A may not necessarily have an impact in site B has, to a large extent, been ignored by previous research that focuses largely on collecting figures to show whether the measure has worked at all. The main issue is not so much whether the measure worked but rather how it did so or, conversely, why it failed to work when logic indicated that it should, or as Pawson and Tilley (1997) state, "what works, for whom and in what circumstances." Eventually, of course, the result of conducting evaluations in a realistic manner should be that the contexts that do not trigger certain mechanisms (and, vice versa, those that do) are identified, providing a useful base of knowledge for crime prevention practitioners.

THE CCTV PROJECT

This research project had two aims. First, to examine the impact of introducing CCTV in two retail stores, and, second, to examine the practicalities of using realistic evaluation as an evaluation methodology. This paper focuses on the second of these two aims (for a discussion of the first, see Gill and Turbin, 1998). The research was conducted in a medium-sized jeans and casual clothing retailer over a 12-month period. The company has 10 stores and employs over 250 people in the U.K.

The research was designed to examine several mechanisms through which CCTV might be having an effect. However, the mechanisms chosen for testing were by necessity limited, and with hindsight some may not have been sufficiently well defined. The research has demonstrated that there is a need for flexibility during the data-gathering period so that new mechanisms can be explored as they arise. To gain consensus about which mechanisms were appropriate, suggestions were gathered from academics, retailers and installers, and by building upon Tilley's (1993) work on car parks and CCTV. Each of the mechanisms is explored in the following sections. Obviously, these mechanisms do not cover all the possible ways in which CCTV might have an impact in stores. Indeed, some of the mechanisms proved to be irrelevant, others were too difficult to obtain data on, whilst a new mechanism was proposed as a result of the research.

DATA COLLECTION

The two stores used for the study were located in Leeds and in Sheffield. The project involved collecting data, installing CCTV and collecting data, and removing CCTV and collecting data during a 12-month period. Four main sources provided data: customers, staff, shop thieves and regular stocktakes. A total of 480 customers were interviewed (120 customers at each store both before and during CCTV installation). In addition, staff at both stores were interviewed three times: before the CCTV was installed, whilst CCTV was in store and after CCTV was removed from the store. Interviews were also conducted with 38 shop thieves. Five were from the probation services while 31 were recruited via snowball sampling. The remaining two offenders were already participating in similar research with the retail company. Clearly, the shop thieves we interviewed are not a representative sample, though this would be impossible anyway since

many are never caught or never admit all the offences they have carried out. But the aim was to gain an insight into the offenders' rationale regarding security measures. The offenders' views could then be related to the other data from customers, staff and stocktakes to obtain a broader picture of the potential impact of CCTV.[3]

The findings presented here provide only a brief summary of results, since the emphasis of this paper is on the evaluation methodology rather than the impact of CCTV. For a fuller description of general security issues, the reader is referred to the first paper (Gill and Turbin, 1998).

GENERAL CONTEXTUAL ISSUES

One of the most important aspects of the realistic approach is the emphasis it places on understanding the context in which mechanisms operate (or do not operate). Gaining evidence about contextual issues is not always easy. The copious amount of data available means that important aspects may be unintentionally missed. This study chose to examine general contextual issues by interviewing staff members in some depth. It is recognised that this narrow focus may miss locational or other contextual aspects, but with the time-frame and resources available this was felt to be the best approach to give useful background data.

Staff interviews were wide-ranging, covering attitudes towards various types of security measure and experiences of crimes at work. Interviews lasted about one hour per staff member and all were tape-recorded. In total, 25 staff were interviewed before CCTV was installed (i.e., all staff at that time), and this figure rose to 27 with the CCTV in stores. After CCTV was removed only nine staff were interviewed, but these had all been interviewed twice previously. This innovative approach was designed to examine changes in staff perceptions during the study period.

Two main issues arose from staff interviews and visits to the store. The first was that the two stores experienced similar crime problems but the frequency differed between Leeds and Sheffield. Shop theft was the biggest concern to all staff, greater than physical assault or verbal abuse, and this was linked to the frequency with which shop theft was perceived to occur. Unsurprisingly, there was a higher level of concern expressed by staff who dealt with more incidents of shop theft. Staff at Leeds, however, claimed to have apprehended more shoplifters and more frequently than those in Sheffield. Overall, shop

theft was perceived to occur more than once a week by both Leeds and Sheffield staff.

The interviews also revealed that although shop theft is a common problem and one that caused considerable concern, some staff were choosing not to confront shop thieves. This was due to a variety of reasons, such as fear for personal safety, a general lack of awareness, or a belief that support was lacking from other staff (possibly due to low staffing levels). In addition, some staff mentioned their frustration at being unable to do anything about regular shop thieves, who often taunted them. Some blamed the company policy towards shop thieves for being too lenient. A comment included:

> The policy here is just to take the garments off them and ask them to leave, which to be quite honest, I think is really lame. It's not nearly enough of a slap on the wrist for them.

Staff recounted incidents of quite open intimidation, particularly when shop thieves were in groups. Indeed, staff at Leeds had even nicknamed one group the "Bash Street Kids" because they were such frequent visitors. It appears that some thieves were quite aware of the limitations of what staff could do and were willing to test authority to see how much they could get away with.

The second issue was that although staff on the whole welcomed the introduction of CCTV to the stores, there were some fears expressed that management would use the cameras to "spy" on them (a belief that was later justified by their subsequent use). This was predominantly a product of the Sheffield store, where over half the staff admitted to worries about the proposed installation of CCTV. However, despite these concerns, it is notable that staff had high expectations of the effectiveness of CCTV in reducing both violence towards staff and shop theft.

Finally, it is important to stress that the company had chosen the camera system to be a deterrent, rather than an aid to catch or prosecute offenders. Therefore, the monitors were larger than normal (28"), with good picture clarity, and were specially positioned to be clearly visible (by being hung down low in the shop). The camera output was recorded on tape but not constantly monitored. The company policy towards shoplifters was to approach and offer service in an attempt to deter them, and directly challenge them only if they exited with an unpaid-for item. Hence, it should be noted that the CCTV could not really be expected to have an impact on catching or prosecuting offenders, as this was not the outcome that the cameras were designed for or used to achieve.

The issue of context is obviously more complicated than the picture that emerged from our data collection. More could have been made of the context issue, and this is something for other researchers to be aware of. However, all evaluations should at least make some attempt to identify points about context that may be crucial to the setting in motion of particular mechanisms. In this case, staff attitudes towards the camera system and expectations about its effectiveness were shown to be potentially important contextual issues. It was noted that the system design will limit the mechanisms that are triggered, and this must also be recognised.

TESTING THE CMO CONFIGURATIONS

The following section describes the results of testing CMO configurations. While the mechanisms were proposed before the data collection began, they were not directly related to contexts or potential outcomes in the manner of CMO configurations. The CMO configurations were derived after the data were collected and analysed. This is perhaps one of the weaknesses of the realistic approach, namely, that you need a very good understanding of the processes involved in order to postulate appropriate mechanisms before the research begins. General CMO configurations can be quite easily identified, but the less obvious ones may well be missed or inadequate data collected to confirm or reject them because they were identified too late.

The following CMO configurations are presented either because the data strongly supported them or because they raise important points about the methodology. However, they are not exhaustive and the reader is referred to the original report for an examination of all the mechanisms tested.

(1) CONTEXT	+	MECHANISM	=	OUTCOME
Staff feel intimidated by shop thieves and lack confidence to challenge them		CCTV may give staff more confidence to approach suspects		By approaching shop thieves they are deterred from stealing and this reduces overall theft

This mechanism proposed that CCTV might give staff more confidence to approach offenders. The outcome of this would be that overall theft would decline as more shop thieves are deterred from steal-

ing. The context in which this mechanism is triggered is one where staff feel intimidated and are not challenging known or suspected offenders. Evidence from interviews indicated that some staff did appear to gain confidence from the presence of in-store cameras. Staff reported feeling more comfortable with cameras there to back them up in confrontational situations. Some illustrative comments included:

> It's quite scary being on the shop floor on your own. If a big group of lads come in and you're on your own, at least you know you've got the cameras to back you up*.

> The incident that I spoke about, I actually felt a lot safer with the camera being there, simply because if anything did happen then, I kept saying to him "Look, you wanna calm down, everything's being recorded and it's all on tape." Whether he'd have gone any further without the camera there I don't know, but I think personally I just felt a lot more comfortable with it being there.

> It makes me feel a lot more comfortable in doing my job.

> You know it's [CCTV] there if anything is going to happen. It just makes you feel, you know, more comfortable approaching the situation.

The cameras appeared to provide a backup in several ways. First, by indicating to the offender that they were on camera, staff felt that they had more control over the situation. This also provided them with the power to threaten suspects with taped evidence of their behaviour, irrespective of whether the cameras had recorded the incident — it was the immediate threat of taped evidence that was important. Even if staff were unsure or had not directly seen an act of shop theft, they had more confidence to challenge suspicious individuals. Though CCTV cannot in any physical way intervene to aid staff in a dispute, in psychological terms it may give staff more confidence. If CCTV acts as a reassurance to staff, it may positively affect their decision to approach shop thieves. Even if they are not being prosecuted the fact that they are challenged may, in itself, be a deterrent (particularly as many may not have been challenged before).

This mechanism is, of course, only activated when the context is appropriate. In this case it was apparent from the staff interviews that some staff did feel intimidated by shop thieves. However, the

mechanism may not work in a store where staff are already confident in approaching suspects, or where it is not seen as their responsibility to do so (where there is a security guard or store detectives or perhaps where staff refuse to become involved for other reasons).

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(2) CONTEXT      +      MECHANISM      =      OUTCOME
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| Staff perceive CCTV, on its own, to be effective against shop theft | CCTV may decrease staff vigilance as they begin to rely on it | Theft levels increase as the surveillance by staff is reduced |

The second CMO configuration proposed that if staff believe CCTV to be effective, then having cameras in the store may actually increase theft because staff rely on the system to deal with shop thieves. Theft then increases because staff surveillance and intervention is reduced. Interviews with staff both before and during the installation of CCTV demonstrated that they had very high expectations of its ability to reduce shop theft or violence towards staff. Though there was some degree of disillusionment once staff had experienced the cameras in action, the majority still felt that CCTV was effective at reducing shop theft.[4] Thus, the appropriate context was present for this mechanism to be triggered.

Evidence for this mechanism was qualitative. It highlights a potential problem with the realistic approach when attempting to link the theory to applying the approach in practice. While it is possible to propose a plausible CMO such as this one (and, indeed, proposing CMO configurations alone is an important development), the specificity of the proposition can make data collection problematic. So, for example, although it is not difficult to obtain data on staff perceptions of CCTV, it is far more difficult to assess whether staff vigilance actually begins to decrease. Of course, this is more a realisation of the limits of data collection than a criticism of the realistic approach. But, the approach does require far more stringent data collection if the theory is to be translated into confirmed results.

The approach taken in this project towards mechanism two was indirect. It relied on staff interviews to assess changing perceptions during the three interview phases (aided considerably by tape-recording all the interviews). We were looking to see if the staff used the CCTV system and if they provided any comments about reduced responsibilities after it was introduced. The findings suggested that

before the cameras were introduced, some staff welcomed them because they felt they would no longer have to deal with shop thieves. But after they had experienced in-store CCTV and realised that no one would be constantly monitoring the system for them, staff seemed to come to accept that the cameras were an additional aid for them to tackle offenders. In addition, staff actively used the monitors to observe customers and suspicious individuals. Indeed, it is quite plausible that the reverse CMO configuration might be true — that staff vigilance increases with in-store cameras, at least initially.[5] Since the CCTV tapes were used for training purposes and were considered quite an exciting new feature, staff appeared to gain a heightened awareness of security issues during the time cameras were in the stores.

(3) CONTEXT +	MECHANISM *	OUTCOME
Customer satisfaction could be increased	CCTV is used as a management tool to increase customer satisfaction	More customers frequent the store as a result and provide natural surveillance

The third CMO configuration suggested that CCTV could be used as a management tool to increase customer satisfaction. More customers would then frequent the store as a result and therefore provide more natural surveillance.[6] This mechanism would be triggered only in a situation where customer satisfaction was low or could be increased by staff/customer care. Though concerned primarily with CCTV's impact on theft, the company was also understandably keen to ensure that the cameras did not deter genuine customers and result in lost sales. The evidence for this mechanism is not conclusive. Although the interviews suggested that CCTV was being managed in a way that was designed to increase customer satisfaction, there was no objective evidence to show if customer satisfaction did in fact increase.

Managers of both stores used the CCTV system to monitor how staff were dealing with customers (a fact that caused some initial friction in one of the stores and realised fears expressed by staff prior to the installation of CCTV). Many staff claimed to use the monitors to see where customers were in the store and to offer service if necessary. Some staff claimed that the monitors were particularly useful when the store was short-staffed, as they could monitor sections other than the one they were required to oversee. Management also

used **CCTV** footage to identify times when more staff were required to manage particular sections. However, we do not know if customer satisfaction did increase. The ped-flow (number of customers entering) did not increase significantly while cameras were in the store. But as CMOs seven and eight show, most customers did not dislike the cameras and indeed the majority welcomed them. So, the results suggest that the proposed context and mechanism are probable, but there is little evidence to link the proposed outcome to these two elements. This CMO configuration is not proven and requires further analysis.

(4) CONTEXT	+	MECHANISM	=	OUTCOME
Suspicious behaviour is not being observed by staff.		By observing the CCTV monitors, staff are effectively deployed to areas where suspicious behaviour is occurring.	if	Staff act as a visual deterrent and can apprehend offenders necessary,

The fourth CMO configuration proposed that CCTV might allow the effective deployment of staff to areas where suspicious behaviour was occurring. They could then act as a visible deterrent and could help apprehend offenders. This mechanism would only work in a context where staff are not noticing suspicious behaviour because of observation problems. It was clear that staff did use the CCTV system to monitor suspected shop thieves, and most claimed to be able to identify either suspicious activity or known shop thieves. Staff tended to observe suspicious activities using the CCTV and then intervene if necessary by taking a service approach; by asking, "Can I help you?," for example. It is possible to conclude that CCTV did help staff to identify and deter individuals behaving suspiciously, but this was not necessarily linked to a particular location. Again, this demonstrates the need for flexibility with mechanisms so that they can be further refined in light of the evidence obtained. However, it is interesting to note how CCTV was used in an additional role of customer care and sales rather than simply in its crime prevention role.

(5) CONTEXT	+	MECHANISM	–	OUTCOME
In-store trouble spots are not well-known to staff		By viewing the CCTV monitors, the staff may be better able to identify trouble spots		Trouble spots can be monitored by staff to reduce losses from that area

The fifth CMO configuration takes a slightly different angle to the previous one. It suggests that CCTV might aid in the identification of in-store trouble spots. These could then be monitored by staff to reduce losses from that particular area. The context in which this mechanism would work is one where staff are not aware of trouble spots in the store. Again, the evidence for this CMO was not conclusive. Though staff did use the monitors to look at suspicious individuals, they did not relate this consciously to any particular area. This is because staff already knew where the trouble spots were (e.g., hidden corners, areas from which large amounts of stock had previously been stolen, etc.). Indeed, staff in both stores were very consistent about where the problem areas were. Thus, there was no incentive to try to use the monitors for this purpose. It is still open to testing to see if this mechanism might work in a different store where the context should facilitate it (i.e., where trouble spots are unidentified).

(6) CONTEXT	+	MECHANISM	=	OUTCOME
Prosecution of shop thieves is rarely sought because of lack of clear evidence		Recorded CCTV pictures may be used as evidence for the prosecution of offenders		CCTV evidence allows more successful convictions, and therefore reduces the number of active shop thieves and acts as a deterrent to others

The sixth CMO configuration considers whether CCTV works by providing evidence that can be used for the prosecution of offenders. It requires a context where shop thieves are not routinely prosecuted because there is a lack of clear evidence. The outcome is that more offenders would be prosecuted using CCTV evidence than before, thereby reducing their activity in the store, and that this might act as a deterrent to other shop thieves. The first point is obviously that the mechanism involves two factors. First, the system must record evidence of sufficient quality to be used for prosecution. Second, the incident must also have been observed by staff either at the time or

on the tapes afterwards, so that the tapes are stored and used. It is also helpful if the thief is detained in store at the time, though not absolutely necessary as the following two incidents demonstrate.

During the time that cameras were in the stores, two individuals were prosecuted after taped evidence was taken by the police. The first incident involved a shop thief who was captured on CCTV but not detained at the time of the incident in the store. However, the tape was passed on to the police. The same offender was caught a few days later attempting to steal from a chemist's shop and was recognised by the police as the individual on the CCTV tape. When confronted with this evidence she admitted the theft and was subsequently prosecuted. The second incident involved a male shop thief who stole two jackets from the Leeds store. One of the sales assistants viewed the tape later, recognised the offender and was able to give the police his name.

(7) CONTEXT	+	MECHANISM	=	OUTCOME
Customers dislike store surveillance		Customers notice the CCTV monitors		CCTV may decrease sales if customers dislike the store surveillance. Fewer customers results in less natural surveillance

(8) CONTEXT	+	MECHANISM	*	OUTCOME
Customers like store surveillance		Customers notice the CCTV monitors		CCTV may increase sales if customers like the store surveillance and feel safer. More customers results in increased natural surveillance.

We cannot determine to what extent the CCTV tapes alone were responsible for these prosecutions. The two incidents suggest that taped evidence was useful in the offenders' detection but not necessarily in their prosecution. However, it should be noted that the company policy throughout the trial was to deter individuals rather than prosecute. Considering that most staff claimed that they could iden-

tify regular thieves, it remains open to conjecture how much impact could have been achieved if CCTV was actively managed to catch and prosecute such persistent offenders. We can conclude, however, that this CMO configuration is a viable path through which theft could be reduced, though it was not promoted in the trial stores.

The seventh CMO configuration suggested that sales might be decreased if customers disliked the store surveillance. This assumes a context in which the majority of customers dislike store surveillance and would alter their shopping behaviour if it were present in the store. The outcome is that customers will shop elsewhere, thereby reducing both sales and levels of natural surveillance. However, as we saw with CMO three, it is debatable whether this would actually increase or decrease theft levels. Although natural surveillance may be decreased with fewer customers, this may be balanced by the fact that staff are more able to monitor the remaining customers and to observe suspicious activity.[7] The eighth CMO configuration is really just a reversal of the seventh. It proposes that sales may increase if customers feel that the store is a safe and secure place to shop, which will in turn lead to an increased level of natural surveillance. Again, this only works if customers both notice the CCTV cameras in the store and find their presence reassuring.

There was strong evidence from interviews with 480 customers that, firstly, the majority do not notice security measures, and, secondly, they do not dislike them. Indeed, only 35% of the sampled shoppers noticed the CCTV (n=84), leaving 65% who did not. In terms of liking or disliking the cameras, of 480 customers interviewed the majority (70%, n=336) welcomed CCTV and expressed no worries about its presence. Only 4.8% (n=23) of the sample claimed to be worried by the presence of in-store CCTV, usually saying they would not like it in the changing rooms or that it made them feel uncomfortable. The remainder claimed to have "no opinion." The study found qualitative evidence that certain shoppers welcome CCTV in the store as it makes them feel safer, but this does not necessarily indicate that they would visit the store more often as a response.

Thus, the context proposed in the seventh CMO does not appear to be present. Rather, the context proposed in the eighth CMO appears to be true, as most customers do not dislike cameras or have a neutral opinion. However, the mechanism proposed in both CMOs seven and eight is unlikely to be triggered because almost two-thirds of customers did not notice the CCTV, so their behaviour could not be altered by the camera's presence. Hence, this CMO failed because the

mechanism was not triggered for the majority of customers, even though there was a partly appropriate context for this to happen.

(9) CONTEXT	+	**MECHANISM**	•	**OUTCOME**
Shop thieves rationally weigh the costs or benefits of theft		The CCTV is positioned to be highly visible and the shop thieves notice the cameras/monitors		Shop thieves displace to another store, another time, or a different part of the store, or they cease theft activity due to an increased perception of risk

The final CMO configuration relates to the perception of shop thieves when faced with in-store cameras. This CMO used the hypothesis that CCTV might increase the offenders' perception of risk and therefore cause them to alter their normal behaviour. This relies on a context where offenders make a rational choice about the costs or benefits associated with stealing. Whilst evidence from offenders was obtained that gives interesting insights into how offenders perceive CCTV in-store in general, unfortunately they were not asked about the specific CCTV system in the store. The company was unwilling to allow known offenders in store, or to link the company name to specific questions during offender interviews. Thus we cannot use this evidence to assess the final CMO in a realistic manner. This is particularly pertinent because the CCTV system used was perhaps unusual, in having monitors that were larger than normal and positioned to be highly visible with good picture clarity. Indeed, the system was chosen following feedback from offenders who participated in previous research by the company. Our research was useful in confirming those general beliefs that, for example, picture quality would be poor, that there would always be blind spots, or that staff would not watch the system. Comments included:

> They can't pinpoint every area of the store. You can always hide behind the cameras. Especially if it's a busy shop, you can mingle in the background.

> To be honest, the pictures on those things [CCTV] are crap. They can't tell who it is.

Interestingly, a minority (two-fifths) of our sample replied that they would "sometimes" or "always" be deterred by mobile cameras.

Of course, we cannot say that if faced with the system used in the store that they would still hold that opinion, but it is interesting that such a relatively high percentage claim to be put off simply by the thought of cameras. Indeed it may be that some offenders have general perceptions about cameras that would not necessarily be overridden by seeing an actual system. To casual observation, one system is often very similar to another and, for example, it may not be apparent to the shop thief whether the cameras are real or dummy or are watched or simply recorded. However, this context may not be appropriate for all offenders. Indeed, some may not rationally weigh the risks associated with theft activity due to more pressing concerns (the need to fund a drug habit, for example). For other researchers who wish to retest this CMO configuration, it might be appropriate to conduct offender "walkabouts" in trial stores to see what aspects of security offenders notice without prompting. Obviously, if they do not notice the CCTV then the mechanism proposed here cannot be triggered. However, because the context and outcome depend entirely on individual offenders' beliefs, this type of CMO configuration may need considerable refinement before it can be used.

CONCLUSIONS

The Impact of In-Store CCTV

One important point that this study has highlighted is that the interaction among CCTV, staff and offenders deserves greater attention. Evaluators should begin breaking down the possible mechanisms (some of which have been raised here) in much greater detail. While it is acknowledged that this study was small in scale, the results appear to indicate that CCTV should perhaps be considered more a tool to help combat shop theft than a solution.

It is plausible to suggest that, in this context, CCTV encouraged staff to approach suspected shop thieves and that the system helped them to monitor suspicious individuals. Staff awareness of security issues may have increased with in-store cameras (at least initially), but fears that customers would be offended by CCTV and express dislike of the cameras were shown to be unfounded. It is notable that staff, however, are not only part of the mechanism through which CCTV achieves a result but can also be considered part of the context in which it is expected to work. Thus, staff attitudes and management involvement with the system become far more important than

has previously been recognised. A system introduced to a store where staff welcome the CCTV and want to work with it may create the appropriate context for triggering crime-reducing mechanisms. Equally, a store where staff resent the system may trigger different mechanisms, with the potential to increase losses (by reducing staff vigilance or concern about shop theft). This may be an important aspect of context for both academic evaluators and practitioners to focus more closely upon.

For practitioners, therefore, a useful strategy might be to concentrate on issues of management and staff training to maximise the possible impact of CCTV. One way in which CCTV appears to work is by interacting with the staff, who then influence the shop thieves. Whether CCTV works by influencing shop thieves directly has yet to be shown. For businesses, the study also suggested that CCTV might have a useful but as yet underdeveloped role to play in customer care and service. Security managers need to look at their data in greater depth before installing CCTV if they are to avoid making expensive mistakes. Such "context-mechanism sensitivity" is important and can be guided by the greater understanding facilitated by this new approach.

Strengths and Weaknesses of the Methodology

This study has made only a modest start at using realistic evaluation to examine a specific crime prevention measure. Other researchers will need to refine the approach. There are both strengths and weaknesses to this method that deserve consideration. The theory on which the evaluation methodology is constructed is innovative and holistic, but there are some problems in translating this into practical research results (though these are not insurmountable). The requirements of data collection are far more specific using this methodology; notably, that each of the elements of context, mechanism and outcome require careful validation if they are to be proven. It is relatively easy to propose plausible CMO configurations but much harder to collect useful (or valid) data for all three, particularly where time and resources are limited. This project has demonstrated why issues of context should be examined in much greater depth before the main research phase begins. A good understanding of general contextual issues allows appropriate mechanisms to be proposed. Using CMO configurations is a useful method of teasing out how a measure might be working and in what circumstances it might not work. Indeed, as more research is conducted in this manner, it should be possible to identify common aspects of context that are important to

trigger desired mechanisms. This is an important step in building up a body of useful data about what works in crime prevention.

Finally, a major lesson of realistic evaluation is that both academics and practitioners should not be too quick to dismiss evaluations where the loss figures show no significant decline. As with many branches of scientific investigation, a negative result does not mean that there is no result. One of the strengths of the realistic approach is its move away from an overreliance on simplified statistical data. By exploring the mechanisms through which the measure works and the context in which they are triggered, it is possible to identify specific situations that are inappropriate; i.e., those where crime figures do not fall. This area has great potential to help researchers avoid repeating failures.

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NOTES

1. Note that as the research strategy is still in the developmental stage, this enquiry may be said to incorporate many aspects of the realistic approach, but does not claim to be a strict realistic evaluation.

2. Though for a criticism of this approach, see Bennett (1996).

3. It is recognised that for a realistic evaluation, these data are limited. The offenders were not taken to the stores where CCTV was located, and, therefore, the data cannot be used to explore specific CMO configurations associated with the stores. Understandably, the company was not willing to allow in-store walkabouts with known offenders or to have interview questions refer to the company's name. Nevertheless, it was felt that offenders' general perceptions of CCTV could usefully be examined in this way. This represents our own adaptation of the realistic approach.

4. Interestingly, after staff had experienced cameras in the store, there was a strong shift in opinion about the ability of CCTV to reduce violence towards staff. Initially, most staff thought cameras would be "very effective" but once they were installed most changed their opinion to "ineffective" or "very ineffective." However, staff did claim that cameras gave them more confidence to deal with confrontations, even if they did not appear to reduce their frequency.

5. There are two issues here. First, staff vigilance may have increased because of the novelty of having cameras in the store. This may well have focused their attention on the problem of shop theft. Second, staff may have become more realistic about what CCTV could actually do and learnt how to use it to best effect.

6. There is, of course, the reverse argument that more customers in a store provide cover for shop thieves to operate. According to this position, staff will be more involved with genuine customers and less able to look for offenders.

7. Indeed, this problem could warrant a separate research project to investigate whether increasing natural surveillance provides more eyes to spot shoplifters or more cover for them to hide. It would be interesting to interview customers to see if they have ever observed shop theft activity and, if so, what they did about it. After all, natural surveillance is of little use if those observing the theft do nothing about it. This is perhaps a question that could be investigated in future offender-based research project to find out whether shop thieves consciously choose crowded shops or prefer quieter areas.