Chapter 28
Introducing Predictive Policing Technologies (PPT):
An Action Research–Oriented Approach for EBOCD Initiatives

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ABSTRACT

This reflective case-history presents the findings of a 12-week pilot study of a collaborative organizational change project which oversaw the implementation of predictive policing technology (PPT) into a territorial police force in the North of England. Based on the first year of a two-year initiative, the reflections consider the impact on the future of the project and their potential future application and cultural embeddedness, beyond the organizational and time-bound specifics of this case.

INTRODUCTION

This reflective case-history presents the case of a 12-week pilot-study of a collaborative organizational change project that sought to oversee the successful implementation of a 'predictive policing technology' (PPT) into a territorial police force in the North of England (West Yorkshire Police, referred to henceforth as 'the Force'). We critically reflect on the process of this evidence-based organizational change and development (EBOCD) initiative, the immediate impact of the initiative, and the research findings. In doing so we provide observations regarding the implementation and use of such technologies and the challenges they represent in relation to organizational change and culture. The question underpinning this research was, 'How can predictive policing technology be culturally embedded?' Our hope is that the findings from this pilot-study can be applied more widely as other districts move to engage with similar technologies as part of further Home Office and policing initiatives (Grierson, 2016).

Context and Drivers of the EBOCD Initiative

The 12-week pilot that forms the focus of this case-history was the first phase of an ongoing 'action research' oriented organizational change project between the Force and a team of academics from a range of backgrounds, disciplines and institutions. The project was funded by the UK Home Office and forms part of a wider strategy that sees academic expertise aligned with a range of challenges and crime-prevention initiatives identified in territorial police forces throughout England and Wales. The overarching aim of the collaboration was to facilitate the successful implementation of PPT, based on a number of regional and criminological factors.

The rationale for these initiatives was premised on statistical evidence which correlates the numbers of police officers available for deployment and patrol in relation to the statistics of reported crime. According to UK Home Office figures, in 2009 the number of police officers in England and Wales stood at 143, 769. Following progressive cuts to the public sector, by 2016 this figure fell to 124, 066; a fall of 14% (Harrison, 2015; BBC News, 2016). Even though reported crime-rates tended to fall during this period, by December 2016 this trend had stalled and in some areas (such as fraud) it had reversed.[1] Consequently, police forces in England and Wales have come under increasing amounts of pressure to deliver more with less. A central challenge is that many forms of crime prevention are based around officers' presence preventing crimes being committed (Farrington, MacKenzie, Sherman, & Welsh, 2003). Therefore, with decreasing numbers of "bobbies on the beat" (Hopkins, 2015), the successful direction and presence of resources to the "right place at the right time" has positioned 'predictive policing technology' as a cornerstone for preventative crime measures in the new digital age of policing on both sides of the Atlantic (Bachner, 2013; Holt, 2017).

One response has been to consider the use of predictive analytical software to aid the efficient and effective deployment of 'visible' patrols. In recent years, a significant increase in the volume, velocity, veracity, variety, and value (referenced in Rahman, 2016; Rahman & Aldhaban, 2015) of data ('big data') has meant that organisations in a range of sectors have sought to leverage the data available to enable 'probabilised' decision-making processes (Allenby, Bradlow, George, Liechty, & McCulloch, 2014).

The foremost expectation held by organizations regarding big data's potential is based around 'predictability' (Agarwal & Dhar, 2014; Bughin, Chui, & Manyika, 2010; Hashem et al., 2015). In crude terms, the size of data available is in positive correlation to the leverage against risk. In other words, the

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