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Deconstructing the paradoxical role of managerialism in Irish DNA database policy and practice

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ABSTRACT

Managerialism is omnipresent in Western criminal justice systems, most evident through an emphasis on efficiency, effectiveness, and value-for-money. However, closer examination of components of criminal justice systems can reveal complexities for managerial ideologies in policy and practice. Drawn from an empirical analysis of political debates, policy documents and interviews with stakeholder groups, this article deconstructs the complex role of managerialism in Irish DNA database policy and practice. Despite the appeal of DNA databases to managerial values, this analysis reveals that complexities and tensions in the application of managerialist principles to database policy and practice remain. Notably, although central components of managerialism were promoted, there were significant and unanticipated challenges during the implementation stage of the Irish DNA database. This is evident through three key findings. First, there were differing emphases on 'efficiency' and how efficiency manifests in practice. Second, a disjuncture between resource commitments for the database and the reality in practice was identified. Finally, a tension between independence and systemisation in the case of policing and forensic sectors emerged. Taken collectively, this empirical account illustrates the value of real-world case studies and contributes to criminal justice scholarship on both managerialism and the implementation of DNA policy.

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Managerialism is believed to be omnipresent throughout criminal justice systems in the Western world, whether through policy formulation, policy outcomes or associated practices. Considered an 'ideology' more easily described than defined, managerialism is understood as the application of nebulous private sector values, such as efficiency and effectiveness, to public services (Freiberg 2005, 15). Understood as the ability to achieve an outcome with minimal wastage of resources, time, energy or money (Ludwig 2016, 70), efficiency is promoted through 'competition or quasi-market mechanisms' and the elimination of 'duplication, waste, delay and uncertainty' (Freiberg 2005, 14). Effectiveness refers to the degree to which specific objectives are successfully achieved, focusing on outputs rather than inputs and prioritising cost-efficient outcomes (Freiberg 2005, 14; see Ludwig 2016, 70). Additionally, managerialism has sought to improve productivity by transforming independent agencies 'into a "system"' (Robinson, McNeill, and Maruna 2013, 605).

Collectively, these values have led to reduced autonomy and discretion in criminal justice systems and have prompted the use of performance indicators that typically reflect political pressures pertaining to crime management and the associated costs (Pivaty and Johnston 2023). These

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indicators can be monitored, inspected, published, evaluated, and compared with other performance outcomes (Freiberg 2005). For example, the European Union has introduced the 'EU Justice Scoreboard' which provides an annual overview of various indicators, including efficiency (Pivaty and Johnston 2023, 3).

However, closer examination of specific contexts reveals a complex reality for managerial ideologies (see Pivaty and Johnston 2023). Despite the prevalence of managerialism, socio-legal and criminological research has indicated that criminal justice is shaped by political, cultural, economic influences and legal traditions, indicating that managerialism is merely one of many factors that influence policy development (Hofmann 2021). Illustrating this, valuable accounts provided in Johnston and Pivaty's (2023) edited volume demonstrate that structural objectives like managerialism do not always translate into policy and policies in turn are not always translated into practice. Theory and research on managerialism have primarily originated from a small number of mostly Anglophone countries and may not reflect the experience of others. This has prompted calls for comparative empirical research to 'examine the impact and consequences of managerialist or efficiency-driven reforms in criminal justice' at policy, institutional and practitioner levels (Pivaty and Johnston 2023, 15).

This article responds to this call by deconstructing the complex role of managerialism in DNA database policy and practice in Ireland and highlighting the need for more research on specific areas of policy and practice, even within Anglophone countries. DNA database policy and practices are valuable due to their appeal from a managerial perspective. Databases offer a method to search and compare retained DNA profiles (typically from crime scenes and suspects), making it possible to expeditiously include or exclude suspects based on whether a DNA match is obtained (Williams and Johnson 2011). This can reduce time and labour costs for investigators and expedite proceedings through the progression of investigations (Williams and Johnson 2011). Further efficiencies may also be possible through increased guilty pleas (which reduce or eliminate trial-related time and costs) and future savings due to a deterrent effect and the prevention of future offending (see Williams and Johnson 2011). However, despite these benefits and their appeal to a managerial ethos, the present analysis, based on findings from an empirical study in the Republic of Ireland, found complexities in the application of managerialist principles to database policy and practice in Ireland. Beginning by analysing the prevalence of managerialism in contemporary criminal justice policy and DNA policy globally, this study then empirically examines the role of managerialism within the development and operation of Irish DNA database policy and practice, identifying situational nuances to both managerial theories and DNA policy and practices. Drawing from a content analysis of policy and position papers, government debates and interviews, this empirical account illustrates the value of real-world case studies, contributing to criminal justice scholarship on both managerialism and the implementation of DNA policy. The account reveals the complicated role of managerial ideologies in criminal justice policies and practices. Given recent calls for research exploring the extent of bureaucracy (and conversely, human agency) within criminal justice systems (Pivaty and Johnston 2023, 15), this article offers timely contributions in this regard.

Managerialism in criminal justice

Despite the prevalence of managerialist discourse in criminal justice rhetoric, studies have found the prominence of managerial values to fluctuate within jurisdictions and within components of the criminal justice system (Salet and Terpstra 2020). For example, Hofmann's (2021, 478) study of the German and Dutch criminal justice systems found that although efficiency and effectiveness were shared principles across each criminal justice system, individual systems were 'built on a complex and intricate balance' between the executive, judiciary, security interests and human rights concerns. Examining specific components of justice systems also reveals further differences, attributable to a 'governmentality gap' between policy values and the manifestation of these values in practice, due to conflict between stakeholder priorities and individual agency (Healy and Kennefick 2019; McNeill

et al. 2009, 420). Illustrating this, studies scrutinising components of individual justice systems, such as the experiences of defence lawyers (Hodgson 2020), the impact on victim services (Forbes 2023) and the impact on inquisitorial and adversarial systems (Johnston and Smith 2023), have found differing experiences of managerialism.

Criticisms have emerged, from concerns over budget cuts despite unchanged workloads and confusion between targets and outcomes, to more fundamental issues regarding the compatibility of managerial values with due process and human rights, which are 'expensive, inefficient and slow the operation of the system' (Freiberg 2005, 18). There can also be difficulties in defining and measuring managerial concepts, as these will vary depending on the organisation employing them; 'police effectiveness will differ to forensic effectiveness, which differs to the effectiveness of the criminal justice system and so on' (Ludwig 2016, 70).

While criticism of managerial agendas is not uncommon, research has found evidence that managerial philosophies can contribute positively to the operation of criminal justice systems. For example, Dandurand's (2014, 384) study found that Canadian justice practitioners believed managerial ideals could, in theory at least, combat several issues within the justice system, including undue delays, a lack of shared visions and values, a lack of performance data, institutional silos and issues with public confidence. Further, managerialism can gain 'particular credence in times of austerity' or economic crises, when the deployment of resources requires justification (Pivaty and Johnston 2023; Porter 2019, 506).

Of particular interest, research has indicated the importance of managerial concepts when seeking to understand the value of forensic technologies for criminal justice systems. For example, Ludwig (2016, 70) considers the value of adding offenders to the database from a deterrence and incapacitation perspective, finding databases to be 'more cost-effective than traditional law enforcement tools.' Research has also highlighted the ability of managerialism to aid in the implementation of new forensic technologies into the criminal justice system. In their study of the Integrated Ballistics Identification System (IBIS) in Trinidad and Tobago, Wells, Katz, and Kim's (2008, 18) found that IBIS 'expanded the ballistic analysis capabilities' of the police by facilitating an efficient comparison of ammunition collected from crime scenes. Subsequent analysis of the National Integrated Ballistic Information Network (NIBIN) system in the US by King et al. (2013) found the NIBIN to be under-resourced with untapped potential. Given this, King et al. (2013, 87) recommended the use of 'meaningful metrics' to aid in the monitoring the performance of NIBIN sites, the improvement of the sharing of NIBIN data between agencies, the development of a research program focusing on effective practices and performance, along with extensive resource support for staffing, training and knowledge sharing. These studies illustrate the value of managerialism in implementing and integrating forensic technologies to ensure such technologies realise their potential.

As managerialism is woven throughout international literature examining specific components of justice systems, it is unsurprising to find that it can be found within literature analysing the governance of DNA databases internationally (McCartney 2006; Williams and Johnson 2011). For example, Gerlach's (2004) study of DNA policy framing in Canada considered how DNA databases can be used to increase the efficiency and effectiveness of criminal justice systems. Subsequent research on the National DNA database (NDNAD) in England, Wales and Northern Ireland found evidence of managerialist ends in political discourse, including commitments to efficiency and resource management (McCartney 2006). Related to this, the forensic science sector in England, Wales and Northern Ireland has been subject to 'a range of concepts, methods and practices designed to manage and measure their work' (Williams and Johnson 2011, 101–102). Notably, government interventions such as the 'Forensics21' strategy have been considered to represent 'a managerialist preoccupation' with forensic science by employing the use of metrics pertaining to speed, standardisation, and investigative outcomes (Lawless 2011, 680).

However, jurisdictional idiosyncrasies have also been identified in DNA database policy and practices, with 'national and local features and particularities' found to inform the use of DNA in investigations in Portugal for example (Ludwig 2016; Machado and Costa 2013, 100). Particularities in

Portugal included the incorporation of DNA evidence into an inquisitorial justice system (as opposed to an adversarial system where the use of such evidence originated), along with local challenges pertaining to scientific training and a lack of legal clarity regarding both the responsibilities for DNA evidence during investigations and the restrictions on accessing information on the database (Machado and Costa 2013). Similarly, Campbell's (2011) analysis showed how differing prosecution histories and views on policing in the United States and the United Kingdom can impact the operation of databases. In the case of the NDNAD, a receptive political and cultural climate, aggravated by a lack of 'a robust constitutional framework' for privacy protections, resulted in the early expansion of the NDNAD (Campbell 2011, 309). In contrast, while the US Constitution permitted the development of expansive databases, liberal ideologies, at one time at least, discouraged such an approach (Campbell 2011). This illustrates that, as with managerial values, databases can be shaped by local contexts and influences, meaning that we cannot expect to see an even application of managerial ideologies in a jurisdiction simply due to their prominence elsewhere.

Unsurprisingly given the prevalence of managerial ideologies across criminal justice components, criticism regarding the use of concepts such as efficiency and effectiveness remains. Such concepts remain 'complex', 'under-theorised' and can contain 'conflicting underlying ideas' (Pivaty and Johnston 2023, 14). Defining these concepts remains challenging, as the fundamental managerial aims vary depending on the goals of the system. For example, a general understanding of efficiency is one of achieving a desired outcome in the shortest amount of time and/or by ensuring the lowest cost or with minimum wastage (Pivaty and Johnston 2023). However, in a criminal justice context, efficiency has also been understood as 'the system's capacity to apprehend, try, convict, and dispose of a high proportion of criminal offenders whose offenses become known' (Packer 1964, 10, cited in Hofmann 2021, 456). The different definitions can result in difficulty in defining and measuring the outputs of the public sector (Vickers and Kouzmin 2001). This is evident in policing for example, where 'measurable activities', such as detections, can be preferred over 'socially beneficial' outcomes which are not as easily measured (such as citizen satisfaction), thus risking community disengagement and police integrity through efforts to demonstrate compliance with desired statistics (de Maillard and Savage 2018, 315). Taken collectively, the real-world impact of managerialism remains unclear due to a lack of systematic evaluation (Dandurand 2014). Idiosyncratic jurisdictional experiences and contextual factors present challenges to systematic evaluation due to the capacity for divergences in the application of criminal justice policy (Tonry 2007). Nuanced empirical accounts are needed to understand the real-world implementation of policies into practice, to capture policy, institutional and practitioner voices and to reveal the complexities, synergies and tensions that arise during implementation (Garland 2018; Tonry 2007).

Context of the study

This article contributes to understanding the real-world impact of managerialism by examining a component of the Irish criminal justice system, namely DNA database policy and practice, in detail. The Republic of Ireland is a valuable case study due to its peculiar history with DNA evidence and managerialism. Before the database was introduced in 2015, DNA evidence in Ireland was primarily used to identify or exclude known suspects, with its application being relatively limited, as evidenced by its use in only about 40 court cases by 1997 (O'Donnell 1997).

However, this began to change in the early 2000s, as efforts to establish an Irish database coincided with the rise of managerialist rhetoric. Initially, apparent in strategic plans and reports, managerial rhetoric subsequently extended to policies which sought to 'modernise' the Garda Síochána, the single national policing service of Ireland in 2005 (Mulcahy 2015, 271; O'Donnell 2005). During this same period, the Law Reform Commission (LRC 2005), an independent body that conducts research and reviews the law in Ireland, was commissioned by the then Attorney General to consider the establishment of the DNA database in Ireland. Their 'Report on the Establishment of a DNA Database' was published in 2005. This was followed by the publication of

the General Scheme of the *Criminal Justice (Forensic Sampling and Evidence) Bill 2007*, which formed the first substantive legislative commitment to establishing a database. Subsequently, the more comprehensive *Criminal Justice (Forensic Evidence and DNA Database System) Bill 2010* was tabled, before being abandoned a short time later due to the collapse of government during the economic crisis of 2010–2011. The Bill was eventually re-tabled, with some changes, as the *Criminal Justice (Forensic Evidence and DNA Database System) Bill 2013*, before enactment as the *Criminal Justice (Forensic Evidence and DNA Database System) Act 2014*. The database was subsequently launched in November 2015. Under S67 of the 2014 Act, Forensic Science Ireland (FSI), an associated office of the Department of Justice, is responsible for, *inter alia*, generating DNA profiles from samples, entering the profiles into the database where appropriate, searching the database, reporting the results of the searches and the destruction of samples and the removal of profiles.

Indicated by the collapse of government during the life of the 2010 Bill, Ireland was undergoing a seismic financial boom and bust, with the so-called ‘Celtic Tiger’ era, a time of exponential growth and wealth, abruptly ended by the global recession in 2008 and the subsequent financial bailout by the International Monetary Fund (IMF) in 2011 (Healy 2020). While the Republic has since undergone economic recovery, ‘legacy issues’, including ‘unsustainably high public debt’, have continued to persist throughout the years post-establishment of the database (Healy 2020, 74). This context provided a volatile economic climate for the proliferation of managerial ideologies and likely affected politicians’ ability to pursue and effectively implement any criminal justice policy that required robust resource commitments (Lacey, Soskice, and Hope 2018). Therefore, considering the timeline of legislative efforts for a database, the economic volatility and the increasing prevalence of managerial rhetoric, a study of the Irish database offers valuable insights into the broader implications of managerialism in criminal justice, particularly in relation to the implementation of forensic technologies.

Methods

This analysis was drawn from a larger research project which sought to gain an understanding of the criminological rationales underpinning the database in Ireland. To do this, a qualitative content analysis of Oireachtas (the Irish parliament¹) debates, policy and position papers, announcements and official press releases (totalling 13 documents) was coupled with 25 semi-structured interviews (and two written responses to interview questions) with Irish criminal justice professionals. Documents analysed were freely available online and were accessed through visits to the relevant criminal justice agency and stakeholder websites and archives, or through searches of academic databases. As documents often referenced earlier publications, snowballing between documents occurred. All the documents were published between 2003 and 2014. This period was chosen as prior to 2003 there was little official commentary dedicated to establishing a database in Ireland, while June 2014 marked the end of the legislative development of the database through the enactment of the 2014 Act.

Having received ethical approval from University College Dublin and the Garda Síochána, interviews were conducted between March 2017 and October 2018, and therefore post-date the establishment of the database, encompassing the implementation as well as reflection on the development of it. A purposive approach was adopted, with the study seeking participants with experience of DNA policy in Ireland. This usually meant that they had participated in or contributed to the development of the legislation or had experience with DNA evidence or the database through the course of their career. The researcher designed an interview schedule of open-ended questions that included questions on the participant’s career, the database and the corresponding legislation and finally, the participants’ perceptions of the database. At the close of the interview, participants were asked for any final comments.

A multilevel analysis, which examines the connections between the different levels, known as the macro-, meso- and micro-levels, of the justice system, was employed to understand the role of

managerialism in Irish database policy and practice (see O'Connell and Healy 2023; McGrath and Healy 2021). While overlap can exist between levels, the macro level captures societal ideologies and priorities within the political sphere, the meso-level captures institutional agents and organisations while the micro-level focuses on practitioners and their relationships with their organisation (McGrath and Healy 2021).

In this study, the macro level is captured in Oireachtas debates, while the meso level includes the voices of those with vested interests in policy making, but who may lack power (see Ismaili 2006). The meso level includes both documentary analysis and interviews. Documentary analysis includes publications by organisations, such as the Irish Council for Civil Liberties (ICCL), who released their position paper, *Human Rights Compatibility of the Establishment of a DNA Database*, in 2003. Publications are cited using the relevant organisation's name. To ensure confidentiality, the eight meso-level interview participants, who contributed expertise from fields such as research, law, science, and politics, were collectively referred to as 'Stakeholders' (see Dahl 2010). Finally, participants at the micro level consisted of twelve members of the Garda Síochána (Ireland's national police service), along with seven legal practitioners (i.e., barristers, solicitors and judges) who specialise in criminal law. The interviews were conducted with Gardaí of varying rank,² ranging from street-level officers to those in mid-level and specialist units, who were predominantly based in urban areas and had varying experience and knowledge of the database and DNA evidence. This diversity ensured insights from both operational and supervisory perspectives. The successful implementation of the database depends on the engagement of officers across all ranks and their understanding of DNA sampling and the importance of collecting DNA appropriately. As such, the qualitative content analysis captures the macro and meso levels, while the interviews capture the meso and micro levels.

It is acknowledged however, particularly in the case of the Garda Síochána and legal practitioners, that the sample size cannot be considered representative of the organisation or profession. Rather, this study focuses specifically on the personal experiences and perceptions of the participants. This focus provided information-rich insights and in-depth understanding and, in line with qualitative inquiry, does not aim to provide empirical generalisations (Staller 2021). Allowing for diverse voices from a variety of perspectives and different contexts, the ecological structure was valuable in providing a model to highlight divergences between managerialism within policy rhetoric and the practical reality.

Results

This article discusses three key findings pertaining to the role of managerialism in Irish DNA database policy and practice, each highlighting significant tensions between aspirations and reality. First, while there was political support for the database based on improved efficiencies, some Garda participants reported experiencing greater inefficiencies in their work practices because of the database. Second, political discourse focused on how the database may contribute to cost-effectiveness, however the analysis raises questions as to whether these goals may have been merely symbolic. The final finding concerned the impact systemisation may have on the relationship between policing and forensic science services, who must now engage a balancing act between organisational independence and increased cooperation. Collectively, these findings illustrate the complex and contradictory role that managerialism can play in criminal justice policies and practices.

The efficiency complex

The first finding concerns efficiency, which can be understood as a measure of how instrumental an action is in achieving specific goals while ensuring minimal wastage (see Ludwig 2016; Vickers and Kouzmin 2001). While databases are touted on their capacity to improve efficiency, the technology must be integrated into practice to capitalise on these benefits, an argument that this study reinforces (Ludwig and Fraser 2014). The analysis indicated that, at

the macro level, politicians prioritised enhanced efficiencies, often asserting that the database would facilitate more expedient and cost-effective investigations. This was echoed by meso-level actors, who focused on the potential for improved investigative speed and case progression. However, despite enthusiasm for improved efficiencies offered by the database, policing participants at the micro level also experienced novel *inefficiencies* due to the new database.

At the macro level, and consistent with the international norm, there was widespread political consensus regarding the potential efficiencies offered by a database (see Krinsky and Simoncelli 2012). During political debates on the 2013 Bill, then Minister for Justice and Equality Fine Gael Deputy Alan Shatter (Dáil Éireann 2013, 396; 472) proclaimed that the database would contribute 'in the move towards more effective, targeted and smarter policing operations' and would assist police in 'identify[ing] serial offenders with speed.' There was corresponding support from opposition members, with, for example, Independent Senator Sean D. Barrett (Seanad Éireann 2014, 485) considering that 'the measures should help reduce the cost of crime investigation, policing and prosecution. . .' Consistent with international literature which has found efficiency framed as a vague, 'common-sense' and 'politically neutral' ambition (O'Keeffe 2018, 21; 22), Irish political statements typically relied on aspirational language rather than cost/benefit analyses demonstrating how efficiencies could be achieved. This is unfortunate as although cost-benefit analyses may not improve understandings of the use of such forensic technologies, a better understanding of how resources are impacted by forensic science 'could determine whether there are any other benefits to improving training or understanding of specific evidence types' (Ludwig 2016, 70).

Those at the meso level also did not offer a substantive analysis in this regard, although opinions did differ in terms of potential inefficiencies. For example, the ICCL (2003) had queried whether a database would be the best use of resources, particularly if it came at the expense of investigatory policing. Potential inefficiencies such as this, along with the cost of court challenges and problems relating to DNA testing, have been notably overlooked at the policy level. For example, Gerlach's (2004, 94) Canadian study found an 'unsettling' lack of substantive analyses concerning 'actual economic and administrative efficiencies', while Robertson (2012, 84) found 'virtually no objective evidence to assess the return on investment in forensic sciences.' Although challenging, such analyses make it possible to frame measurable outcomes against resource commitments to get a sense of the value of the measure (see Julian et al. 2011).

Nonetheless, the dominant view at the meso level was that the database would make the criminal justice system 'far more efficient' because it can 'rule out people who may be main suspects [so] you're not wasting time tracking them down' (Stakeholder 5). This was echoed by Stakeholder 3, who considered that the database could 'achieve efficiencies' in investigations through reducing court time and allowing for 'the speedy exoneration from the scope of the investigation of suspects who are already on the database and whose profiles do not match.' These views are consistent with the earlier analysis by the Department of Justice and Equality (2013, 10), who, in their Regulatory Analysis of the 2013 Bill, found that there should be 'reduced costs' and 'savings' arising from efficiencies generated by a database, although, consistent with international experience, this analysis was not supported by a detailed breakdown. An analysis in this regard is challenging, with the international norm to measure what is measurable in the case of databases. This means relying on statistics only available after the establishment and operation of the database, such as the number of matches, crime detections and/or convictions (Krinsky and Simoncelli 2012, 307–310). This practice appears to be followed in Ireland, where FSI's (Annual Report 2021, 32) measure of the effectiveness of the database resembles the metrics employed internationally; comparing the number of person-to-stain matches relative to the number of persons included in the database, and the number of person-to-stain matches relative to the number of stains included in the database. Stains are physical traces left at a crime scene that can provide forensic evidence (such as hair, blood or skin), while profiles are produced through the analysis of samples from such traces or from individuals (see Krinsky and Simoncelli 2012). However, FSI (Annual Report 2021, 23) recognise the limitations of this approach,

acknowledging that 'statistics alone cannot represent the contribution and impact that FSI staff are having on the justice system in Ireland.'

Testament to the FSI's assertion, micro level participants revealed the value of these analyses, as they not only identified potential improved efficiencies, but also revealed challenging organisational realities and inefficiencies which were attributed to both the nature of policing and the legislative design. For example, although Legal Practitioner 7 considered that the database would improve the efficiency of law enforcement, Legal Practitioner 2 considered the risk of 'encourag[ing] police inactivity as they may go to the database, and not engage in wider investigation of the crime, witness statements and other forensics.' As this research occurred at the implementation stage of the database, the veracity of this concern was unknown, with an assessment beyond the scope of analysis. International research has indicated, however, that while DNA evidence can affect legal judgments and decision-making by investigators, the experience of individual investigators can complicate the relationship between evidence, judgment, and decision-making (Jang et al. 2020).

The database was widely praised by policing participants for enhancing efficiency. Not only was the database of benefit to 'the victim and the suspected offender' as it 'definitely improves the efficiency' (Garda Participant 9), but also to the public because 'those they task to investigate crime have a facility to investigate quickly' (Garda Participant 1). Interestingly, the analysis also revealed that a managerial ethos may have permeated policing services; 'it's changed our business, there's no doubt about it' (Garda Participant 6). Policing participants expressed that they felt pressed to process and resolve investigations expeditiously, referring to 'targets', the 'business' of policing, 'service delivery' and 'higher percentage.' Garda Participant 6 explained this plainly, stating that 'everything is now statistically based' and 'is open to scrutiny, governance.' Given this, a database could serve as an indirect method to alleviate workload pressure and improve the effectiveness and efficiency of investigations, as it, according to Garda Participant 11, 'allows us to do our job more effectively.' In particular, the ability of the database to improve the 'efficient and effective administration of justice' and lead to 'faster conclusions to cases' was highlighted (Garda Participant 7), while efficient case progression was perceived as beneficial from both a victim's perspective, as victims 'don't like delay', and a suspect's perspective, as they may be more quickly excluded from investigations (Garda Participant 5). Along with indicating a belief in an improved policing service, this language is strongly reminiscent of managerial reforms elsewhere which seek to turn criminal justice processes into a business (Vickers and Kouzmin 2001).

Conversely, however, and contradicting the belief that a database may contribute to performance management, this analysis identified practical *inefficiencies* for policing. While challenges during implementation are not unique to policing, policing participants explained that the implementation of the database was a significant undertaking, engendering new protocols, forms, codes of practices, and required education and training. This is neatly encapsulated by Garda Participant 9, who stated that

For a big organisation like the Garda Síochána... having the proper procedures, practices and systems in place to deal with it almost immediately, was a big demand. And that's often a serious problem that the Garda Síochána faces, possibly more so than most other government bodies or state agencies, is that when legislation comes in, we're almost expected to commence and roll out its implementation and practice almost straight away.

A specific inefficiency relating to the 2014 Act was also identified. Under S 80, a DNA profile must be removed from the database if proceedings have not commenced within 12 months of the sample being taken (although it is possible to extend the retention period if necessary). While criticisms of profile removal are typically based on fears of an adverse impact on system efficacy (see e.g., Machado and Costa 2013), this analysis revealed a different pattern. The initial 12-month retention period for suspects was criticised by police participants not because of reduced efficacy but because it results in significantly more paperwork due to applications for retention. Aggravating this is that only those in senior roles within the Garda Síochána can make decisions regarding the applications and the decisions cannot be delegated. Reflecting increased bureaucratisation, Garda Participant 11

explained that the result of this legislative component was that this 'substantial piece of work' can be 'foisted' onto specific offices, which are then disproportionately affected. This reality is interesting when juxtaposed against the original political rationale for the provision. During political debates on the 2010 Bill, then Minister for Justice, Equality and Law Reform, Fianna Fáil Deputy Dermot Ahern (Dáil Éireann 2010, 245) noted that the 'graduated approach' of imbuing specific (usually senior) members with certain powers was illustrative of 'the nature of the decision' (e.g., that it related to a serious crime) and the 'potential consequences for the suspect.' Taken collectively, this is reminiscent of Fielding's (2018, 76) finding in relation to policing in the UK, that 'bright ideas around technology can also end up adding to frontline work.'

Counting costs in a volatile financial landscape

Since databases are often proposed for their potential to save investigation costs by efficiently identifying or eliminating targets, it is essential that the database is adequately resourced to optimise efficiency. While legislation can authorise the establishment of a database, it does not necessarily provide funding, with resource commitments varying depending on forensic policy and police force (Ludwig and Fraser 2014). This argument raises the question of whether the cost of the database justifies any potential savings, a determination complicated by the general absence of cost-benefit analyses. This study found that resource challenges persisted in the implementation of the database despite political assurances, revealing a disconnect that risks to undermine the declared commitments to efficiency. Consistent with international literature, the macro-level arguments for the database may hold more symbolic than substantive value. This is reminiscent of Ludwig and Fraser's (2014, 87) 'working assumption' that 'the potential benefits of any new technology are "automatically" realisable', with the risk of a considerable gap between the potential of the technology and its use in practice.

Analysis of the macro level reveals efforts to address concerns regarding resources from early in the legislative development. Initial concerns were highlighted during the Celtic Tiger period by the government commissioned 'Review of Resource Needs in the Forensic Science Laboratory and the Wider Scientific Context in Ireland', known as the Kopp Review (Kopp 2007). In assessing forensic resource requirements in Ireland, the Kopp Review (Kopp 2007) found the laboratory facilities insufficient. Coupled with the identified deficiencies, political debates on the proposed legislation occurred mainly during and immediately following the recession and IMF bailout, so it is unsurprising that those in government sought to address resource concerns. Concerns were most acute during political debates on the 2010 Bill, where, despite reassurances from government, those in opposition expressed scepticism that resource requirements would be met and queried whether a database could be justified.

In government at the time, Fianna Fáil Deputy Noel O'Flynn (Dáil Éireann 2010, 262) acknowledged that 'despite the current downturn, Budget 2010 has provided €4.1 million for the development of the new DNA database.' In response, opposition Sinn Féin Deputy Aengus Ó Snodaigh (Dáil Éireann 2010, 268; 270; 268) considered the cost predictions to be an 'underestimation' and claimed that inadequate funding would result in 'a disservice' to those believing the DNA database would be of benefit. Similarly, then opposition member Fine Gael Deputy Joe Carey (Dáil Éireann (2010, 264) cautioned against spending on new technologies, when other initiatives 'very quickly ran out of control from a cost point of view and ultimately were scrapped, providing none of the advantages to the Irish public they were supposed to bring.' By 2013, these concerns had cooled, with then Minister for Justice and Equality, Deputy Shatter (Dáil Éireann 2014, 38) keen to emphasise that 'the laboratory should be fully resourced to establish the DNA database.'

Examining the meso level reveals that, despite reassurances, the legacy of the recession and bailout remains salient to this day, with financial pressures felt throughout the Irish criminal justice system (see Leahy and Spain 2017). As interviews were conducted in the years following a period of austerity in Ireland, it is not surprising that participants reflected on budgetary pressures. For

example, Stakeholder 6 asserted that 'the legal system as a whole needs more resourcing', while similar statements were made by Stakeholder 1; 'we need to maximise resources.'

These concerns permeated to the micro level and were reinforced by many of the Legal Practitioners, with Legal Practitioner 6 stating that

I suppose the biggest problem with the criminal justice system is the biggest problem with pretty much anything, it's just lack of funding . . . it's the same thing you know. You could point to a dozen different problems, but they all have the same root cause probably so.

Participants from the Garda Síochána expressed a nuanced reality in this regard, linking their resource concerns with a wider sense of accountability to the public. Demonstrating this, Garda Participant 12 noted the importance of 'providing resources' and 'keeping Garda stations open', several of which were closed during the economic downturn (see Lally 2019). In terms of the database, there was a desire to see 'more investment on this area' (Garda Participant 8), while the 'considerable job' facing the National Forensic Coordination Office (NCFO) in the Garda Síochána, which operates as the link between the police service and FSI, was noted by Garda Participant 9. Another significant complaint concerned Garda IT systems and their capacity for managing database information. Garda Participant 11 explained that the 2014 Act did not provide for 'any IT infrastructure' to manage the information and called for 'an effective IT database' that would include a tracking system. This echoes the Regulatory Analysis by the Department of Justice and Equality (2013, 13), where it was acknowledged that the Garda Síochána would incur additional costs relating to staffing, training, IT requirements, accommodation requirements and consumables for the database. Post establishment, the Garda Professional Standards Unit (GPSU 2018, 29–31) conducted a thematic report on 'Certain Aspects of the Criminal Justice (Forensic Evidence and DNA Database System) Act 2014', which reinforced participants' experiences. The GPSU (2018, 30) found staffing in the NCFO to be 'inadequate', and that the legislative provisions were 'not being fully utilised for a number of reasons including, but not exclusive to, the lack of awareness and training in this area.' This supports earlier findings by the Garda Inspectorate report (2014, 5) which found that resources were 'not allocated in terms of policing need and crime levels', indicating that an increase in budget alone is insufficient to ensure adequate resourcing of services. Collectively, a political disjuncture between the commitments made (which notably focused on the laboratory rather than policing), and experiences during implementation is evident, highlighting a disparity between rhetoric and reality. This indicates that ideological commitments to managerial values can be undermined by a perceived unwillingness to commit appropriate resources to key areas which may, in turn, adversely affect their touted managerial contributions.

Balancing systemisation, collaboration and independence

The final finding pertains to systemisation, which promotes 'the interconnectedness' of the justice system and emphasises clear lines of communication and shared protocols to improve productivity (Dandurand 2014; Freiberg 2005, 19). Systemisation is made possible by employing shared information systems, increasing information sharing or by creating common identifiers (Freiberg 2005). Common performance targets may also create shared goals between traditionally individual agencies. This analysis found systemisation acutely relevant in the context of forensic science services. In Ireland, FSI operates as an associated office of the Irish Department of Justice, separate to policing. Despite the separation, analysis reveals a tension between the promotion of a streamlined relationship between forensic and policing services, and the desire to protect the independence (and the perception of independence) of forensic science services in Ireland. This illustrates that forensic science 'does not sit in splendid isolation', with its effectiveness dependent on multiple agencies (Robertson 2012, 90).

At the macro level, these organisational aspects were not afforded considerable attention by politicians. Instead, those in government directed praise to the laboratory, noting for example, the

'distinguished record' the laboratory had in 'providing independent expertise' (Deputy Ahern, Dáil Éireann (2010, 243). An indication of a preference for efficiency was the decision to rename the existing laboratory in the legislation. Under S 172 of the 2014 Act, the existing Forensic Science Laboratory was renamed Forensic Science Ireland. This decision contrasted with the Law Reform Commission (2005, 69) at the meso level, who recommended that a new independent statutory body be established as the database custodian to ensure that the body was 'perceived publicly as independent' from the police, illustrating that systemisation was not always prioritised across the levels.

At the micro level, this preference for independence was reiterated by two Legal Practitioners, who differentiated the role of FSI from prosecutorial services, explaining there is 'always some comfort that another agency other than the prosecution services manages data...' (Legal Practitioner 3). Conversely, however, enthusiasm for increased collaboration was evident from policing participants, who were very complimentary of FSI, and often identified shared goals between the two organisations. Discussing the 'collaborative working relationship' between the Garda Síochána and FSI, Garda Participant 6 noted that the implementation of the database would mean 'a lot more engagement' between the two organisations, while Garda Participant 10 referred to the 'everyday' realities of this relationship, such as the communication regarding authorisations for retention. Increased integration and cooperation between the two organisations have continued in recent years. By 2019, not only were both the Fingerprints and Documents and Handwriting services from the Garda National Technical Bureau (GNTB) integrated into FSI, but members from the Garda Síochána were seconded to FSI to support the integrated services (FSI 2019a). This integration was deliberate, forming part of FSI's Strategy Plan 2019–2022 (2019b, 5), which seeks to integrate the GNTB into FSI to form 'a single, cohesive forensic service provider for the State' and improve collaborative efforts with the Garda Síochána to bolster efficiency and effectiveness. While efforts to increase systemisation are expected due to a 'shared responsibility' across agencies to ensure that forensic science technologies are used 'effectively and efficiently', future attempts to increase systemisation between the laboratory and policing may present complexities and challenges in ensuring the independence (and the perception of independence) of scientific evidence from policing (Ludwig and Fraser 2014, 86, see; Howes 2017; King et al. 2013). This reflects wider efforts at 'inter-agency coordination' on the part of the Gardaí (Garda Participant 4), where police interact with a range of 'external agencies' (Garda Participant 9) to enhance efficiencies and effectiveness through, *inter alia*, reducing duplication and sharing expertise (see Freiberg 2005).

Commitments, complexities and contradictions in managerialism

This study examined the role of managerialism in Irish database policy and practice, revealing complexities and tensions. Through an analysis of political debates, policy documents, and interviews, the study deconstructed how managerial principles such as efficiency, effectiveness, and value-for-money are applied in this context. Significant and unexpected challenges arose during the database's implementation, indicating that while managerial values can shape criminal justice, the reality is more complex and poses important considerations for policymakers and proponents of managerial ideologies (see Pivaty and Johnston 2023; Salet and Terpstra 2020). Managerial values are complicated due to differences between policy and practice, situational factors, competition between values, and varying interpretations across criminal justice agencies. These multifaceted aspects of managerialism underscore the importance of analysing how criminal justice theories are manifested by different agents at different levels of the system. Before considering the broader implications of the findings for policy, practice and research, this analysis first explores the connections and contrasts with, and contributions of the findings to, existing research.

First, and consistent with international literature, the database was considered to offer investigative efficiencies through the ability to 'make speedy and robust suspected offender identifications' (Williams 2010, 139). McCartney (2006, 127) explains that an emphasis on

efficiency and 'socially desirable ends' can encourage both public acceptance and legitimacy, thus creating space for database introduction and growth. However, this study also revealed a belief among policing participants that the database may indirectly help police to navigate or meet performance targets, indicating that police can feel pressurised due to managerial ideologies.

While police must fulfil their duties through times of austerity and funding restrictions, the Irish context may prove valuable in understanding this emphasis on working effectively. In 2014, the same year that the legislation for the database was enacted, the Garda Inspectorate (2014, cited in Mulcahy 2015, 273) reported that the Garda Síochána had 'dated inefficient investigative processes and policies, combined with poor internal audit controls, inconsistent case management and poor supervisory practices' which had led both 'operational deficiencies' and 'inefficient processes.' Similarly, the interviews with policing participants took place following several policing controversies in Ireland, encompassing issues such as the treatment of whistle-blowers and the erroneous recording of breath-tests (Mulcahy 2021). Such controversies emphasised the importance of oversight, governance, and accountability, and, when married with an economically volatile climate and criticism from the Inspectorate, likely fostered an environment receptive to performance management techniques (Mulcahy 2015). This has been found in policing elsewhere, where public and political pressure to reduce crime alongside economisation within policing has increased demands on police management (Karp, Filstad, and Glomseth 2019). These demands appear to have, in turn, prompted the use of technological innovations for managing workload (Fielding 2018).

By revealing this impact on policing, this study is thematically consistent with research indicating that the prioritisation of efficiency can result in pressurised systems where criminal justice actors feel accountable for performance targets (see Pivaty and Johnston 2023). Interestingly, however, policing participants also described experiences of inefficiencies, including a reported increase in time-consuming paperwork, which is not only frustrating for criminal justice agents but carries ramifications, including delays, for accused persons (Lucken 1998). This paradoxical result, where a measure praised for its efficiency is hindered by an inefficiency, raises significant questions about the suitability of efficiency as an overarching goal in policing and forensic science. These unintended consequences may require nuanced policing responses, which, conversely, may be discouraged by an over-emphasis on performance indicators, crime statistics and 'easily calculable inputs' (Freiberg 2005, 22). Additionally, 'methodologically weak' empirical evidence may undermine the capacity of the forensic science sector to engage in scientific innovation and professional discretion (Freiberg 2005, 22; Julian et al. 2011, 220). This further aggravates efforts to assess the contribution of a DNA database to investigative efficiencies, rendering it difficult to isolate and quantify such contributions.

Considered collectively, the relationship of the macro, meso, and micro levels with the concept of efficiency illustrates the inherent conflicts and cooperation within managerialism. At the macro level, managerialism promotes efficiency and legitimacy as societal values, shaping public and institutional acceptance of tools like databases, while economic austerity and accountability pressures influence governance frameworks in policing. At the meso level, it indicates that organisational pressures can drive the adoption of performance management techniques and technological innovations, while also exposing the paradox of efficiency-driven systems inadvertently generating inefficiencies and discouraging nuanced responses. Finally, at the micro level, they reflect individual officers' perceptions of pressure, frustrations with inefficiencies, and the constraints these dynamics place on their professional discretion and capacity for innovation, as they navigate heightened demands and a climate of scrutiny. The levels show how complexities can exist through competing demands for efficiency, a central tenet of managerialism, across different scales of operation.

The second finding highlights that effective policies require adequate resources, as discrepancies between commitments and actual resources led to ongoing challenges after the establishment of the database. Despite political assurances regarding funding, the legacy of economic crises remained tangible for those working in criminal justice, showing that commitments can be aspirational and lack real financial backing. This finding is consistent with international findings that databases can be

expensive, requiring resources for management and maintenance, and adds to existing research that has found variation in resource commitments and budgetary concerns relating to databases (Krimsky and Simoncelli 2012). Indeed, many countries have faced struggles to successfully resource databases.

The use of a database therefore can be considered a 'question of economics' for those responsible for determining resources (Corazon De Ungria and Manguera Jose 2010, 324). There may be the risk that, in efforts to minimise costs, the effective operation of the database is compromised. Laboratories can face increasing workloads which are not necessarily accompanied by corresponding increases in resources, prompting the question of whether databases justify the operational costs involved. Tensions may then arise between cost efficiencies, and investigative and prosecutorial efficiencies, particularly when the use of a database is restricted to serious, rather than volume, crime. Aggravating this, insufficient resources may negatively impact quantifiable successes of the database and result in contributions (particularly long-term contributions) that are not easily quantified being overlooked, while it is also critical that that resources should not be depleted, nor costs increased 'beyond public acceptability, at the cost of concern with system moral integrity or process legitimacy' (McCartney 2006, 103). As forensic technologies continue to be further embedded into criminal justice systems, the need to determine, demonstrate and improve the efficacy of such technologies becomes increasingly important.

The macro, meso and micro levels together demonstrate how managerialism both shapes and is shaped by financial pressures, organisational challenges, and individual experiences which intersect within the broader context of resource allocation and database management. At the macro level, political promises and economic pressures can lack financial support, reflecting broader systemic challenges in aligning aspirations with actual resource allocation within managerial frameworks. These financial and economic aspects of managerialism shape the adoption and operation of databases, highlighting tensions between cost-efficiency and operational effectiveness. At the meso level, organisational challenges raise questions about operational costs, investigative priorities, and resource justification. Finally, at the micro level, the findings illustrate the practical consequences for criminal justice practitioners, including how resource shortages can hinder engagement with database technologies, constrain their ability to meet expectations, and influence the long-term operational contributions of these systems. These relationships demonstrate the influence of managerial priorities within the context of resource allocation and database operations.

Finally, a tension emerged between strengthening collaboration between the police service and forensic sciences and maintaining (the perception of) independence. Systemisation is increasingly prevalent in criminal justice systems globally, having been seen, for example, in English criminal justice procedure, where reforms have emphasised cooperation, and in the Netherlands, where the internal processes of criminal justice agencies were reorganised in an effort 'to bridge the organizational fragmentation between the agencies involved' (Salet and Terpstra 2020, 828; see Pivaty and Johnston 2023). Such processes represent efforts to minimise the 'justice silo effect' (Kelty et al. 2012, in Julian and Kelty 2015, 201), which can occur due to 'an absence of meaningful and regular collaboration' between the relevant agencies (Julian and Kelty 2015, 201). Research indicates that increased links between forensic scientists and police may prevent a disconnect on cases and ensure coordination in relation to forensic skills and the integration of information (Crispino et al. 2015). Therefore, a degree of synergy is expected to operate between the agencies, with the pragmatic view one of having 'a middleman to join the dots between the police and the laboratory worlds' (Crispino et al. 2015, 56). However, this analysis reveals that systemisation may present difficulties in the case of policing and forensic science services. Alongside challenges posed by impacted independence and increased bureaucratisation, the sense of identity held by forensic practitioners can be challenged, as they may come to feel part of a coalition addressing criminal activity, working with police towards a shared goal and therefore 'on the same team' (Thompson 1997, 1115). This increases the risk of (perceived or real) contextual bias in the interpretation of findings (Howes 2017). Recent research querying the interdependent relationship between laboratories and law

enforcement supports this assertion, finding that communication between laboratory staff and police can affect the submission of evidence in certain cases, leading the authors to note the recommendation that a separation should exist between crime laboratories and policing 'to avoid any actual or perceived influence' (R. Campbell and Fehler-Cabral 2022, NP3693). Despite these challenges, it is critical that the interdependent relationship between policing and forensic practitioners is further analysed, as it will only deepen as forensic science further enmeshes itself into criminal justice processes.

These findings demonstrate the interplay between managerialism and systemisation in the criminal justice process, revealing potential challenges arising from efforts to promote collaboration and coordination. At the macro level, an emphasis on systemisation can reflect broader managerial efforts to reduce fragmentation and improve coordination. The meso level, however, highlights the organisational challenges associated with systemisation, including the tension between fostering collaboration and maintaining institutional independence, as well as the risk of increased bureaucratisation. The micro level considers how forensic scientists and police officers navigate these challenges, such as shifts in professional identity and the practical effects of interagency communication. Together, the analysis shows the complexities of balancing collaboration, independence, and managerial demands as forensic science becomes further integrated into criminal justice processes.

Implications for policy, practice and research

This study reveals a complicated manifestation of managerialism that is attributable to national and local sensitivities and realities. This analysis contributes to international literature by illustrating that the regulation of databases, a key forensic technology, is closely linked to the local community and the social groups that interact with it (see Kruse 2016). This study builds on important research which considers forensic evidence to be 'a social construction', underscoring the importance of examining the implementation of forensic technologies in particular jurisdictions, as failing to do so may risk the full potential of the technology (Julian, Howes, and White 2021, 92). The situational opportunities and risks in the implementation of forensic science are critical to consider, as they will 'determine how effective forensic science is in achieving a positive impact on the criminal justice system' (Julian and Kely 2015, 196). Expanding socio-legal research on databases to include small countries like Ireland is essential, as these analyses can provide nuanced insights into database development and test the generalisability of broader macro-level theories.

The analysis also indicates that different legal cultures with different expertise share responsibility for shaping 'the forensic evidence's different stages of life', including database policy and practice (Kruse 2016, 161). This finding both supports and extends Kruse's (2016, 2015) argument that forensic evidence is shaped by the judicial system and sociocultural practices, allowing for the conceptualisation of database policy and practice as a social process. Social processes can encompass decision-making, collaboration, organisational structures, resource distribution, and policy implementation (Julian, Howes, and White 2021). Considering this, Julian, Howes, and White's (2021, 259) recommendation to create methodologies that emphasise social factors in forensic information can be applied not only to the conventional crime scene-to-court process but also to the long-term retention of forensic data.

In conclusion, this empirical analysis of the Irish database reveals the inherent contradictions and complexities in the experience of managerial values within criminal justice policy and practice. While managerial principles such as efficiency, resource allocation, and systemisation were promoted, their practical implementation revealed significant and, at times, unexpected challenges. This suggests that managerial values, though influential in shaping criminal justice components, are far more complex in practice, with varying interpretations and situational nuances across different agencies and levels. These complexities highlight the importance of critically examining how criminal justice theories manifest in practice, offering valuable insights

for policymakers and proponents of managerial ideologies. Understanding the discrepancies between theory and practice in the implementation of managerial principles within criminal justice systems may promote more effective policymaking, ensuring that theoretical frameworks are adapted to the practical realities, including context-sensitive considerations, faced by criminal justice agencies.

Notes

1. In Ireland, political debates occur in the Houses of the Oireachtas, consisting of Dáil Éireann (House of Representatives) and Seanad Éireann (Senate), where members of Dáil Éireann are referred to as Teachtaí Dála (TDs) and titled 'Deputy' or 'Minister,' while members of Seanad Éireann are known as Senators.
2. A member of the Garda Síochána is referred to as a 'garda,' with the plural form being 'gardaí.' The Garda Síochána has a total of 9 ranks, ranging from the Garda reserves to Commissioner at the highest level.

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