

Statistical Analysis In Criminal Justice Research

Jeaneth Michelle Labis Balaba*

University of the City of Manila, Manila, National Capital Region, Philippines

Abstract

The use of statistics and statistical analysis on crime and criminal justice is critical in order for governments to be effective in implementing anti-crime programs and protect the well-being of the population and assess the social impact of public expenditures and policies. In an increasingly globalized and interconnected world, in the age of cybercrimes even, the collection of reliable and comprehensive criminal justice statistics cannot be understated. Countries collect huge amount of data pertaining to crimes, criminal profiles and related socio-economic, political and geographic profile of different communities and the country as a whole in order to sustain its respective criminal justice system. In many cases, the governments undertake extensive research using quantitative or qualitative techniques or both in order to generate the data. During the research process, statistical analysis is required to transform all these data into useful information for effective criminal justice decision-making as well as policy research.

Keywords: Statistics; Criminal justice

Introduction

The study of statistics involves the extensive use of numbers and information meant to describe a situation or derive a logical inference or conclusion from analyzing both numerical figures and non-numerical facts. Statistics broadly refers to a range of techniques and procedures for analyzing, interpreting, displaying and making decisions based on data. Statistics may either be descriptive or inferential. The explosion of available data made possible by technology advances has resulted in a great need to make sense of all data collection, thus statistical analysis has never been more important. Today, data mining is being undertaken across many fields and organizations and statistical analysis becomes indispensable in order to convert all the data into information that will be useful in a variety of ways. In addition, information systems of organizations rely on good statistics so that users are able to rely on the information they generate for a variety of purposes including planning and decision-making.

Description of the Criminal Justice System

According to a United Nations document, the development of criminal justice statistics is closely tied to the operations of the criminal justice system itself. Generally, this system is composed of five major justice components: police, prosecutors, courts, prisons and non-custodial measures. There are sub-components to each of the major criminal justice branches that all make up a complex network of agencies concerned with crime, criminals and victims.

The police component is made up of national, state, regional and/or local police units tasked mainly with maintaining domestic peace and order. There may also be specialized police agencies that handle specific crime-related issues like traffic, executive protection, tax violations, drugs or environmental crimes.

The prosecutor component is composed of public prosecutors in various levels of government, public defenders or private legal defense systems [1].

The court component comprises of local courts with limited jurisdiction to general trial courts, appellate courts and courts with specialized jurisdictions like tax courts and juvenile courts.

The prison component is comprised of the penal system institutions like the jails for pre-trial detainees and prisons for post-trial detainees

and specialized institutions for juvenile delinquents, sex offenders, the criminally insane, alcoholics and drug abusers. This component also includes probation and parole agencies, a variety of community treatment centers and privately-contracted halfway houses.

The non-custodial component of criminal justice systems is the least documented and varies from country to country. It includes a wide range of non-custodial dispositions, activities and facilities such as fines and fine programs, community alternatives to incarceration, treatment programs and community service orders.

Scope of Criminal Justice Statistics

Statistical data in criminal justice are gathered to answer questions and often data is collected during the crime investigation process. In defining the scope of criminal justice statistics, it is important to know who the past and present users are and for what purpose the data will be used. The questions may also deal with who submits the data, who receives the data, what data is submitted and in what form and at what interval. In considering the criminal justice statistics system by itself, there is also a need to consider what critical policy issues should be included in the formulation of any program to improve it.

The same UN document discloses that an analysis of the requirements for a good justice statistics program might look into the following concerns as a starting point:

- (a) Incidence of crime (seriousness, trends, structure, others)
- (b) Profile of offenders and their characteristics
- (c) Workload of the system (crimes, arrests, dispositions, offenders under supervision)
- (d) Offenders and cases moving through the system

***Corresponding author:** Jeaneth Michelle Labis Balaba, University of the City of Manila, Manila, National Capital Region, Philippines, Tel: (+63 2) 527-7941 to 48; E-mail: jeaneth@rocketmail.com

Received May 10, 2016; **Accepted** August 01, 2016; **Published** August 10, 2016

Citation: Balaba JML (2016) Statistical Analysis In Criminal Justice Research. J Civil Legal Sci 5: 203. doi: [10.4172/2169-0170.1000203](https://doi.org/10.4172/2169-0170.1000203)

Copyright: © 2016 Balaba JML. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

- (e) Recidivism
- (f) Characteristics of victims
- (g) Resources expended (human and fiscal)
- (h) Crime correlates like economic, demographic and other data
- (i) Social and economic cost of crime
- (j) Citizens attitudes towards and concerns about crime and criminal justice

The consideration of underlying questions with regard to these starting points may very well lead to an exhaustive description of the scope and concern of criminal justice statistics and most importantly its analysis. Data must be transformed into information in order to be truly useful and practical. In this paper, we discuss the influence of statistical analysis on criminal justice research and the role of research in the delivery of the services under the criminal justice system.

Statistical Analysis in Criminal Justice Research

The use of statistics and statistical analysis on crime and criminal justice is critical in order for governments to be effective in implementing anti-crime programs and protect the well-being of the population and assess the social impact of public expenditures and policies. In an increasingly globalized and interconnected world, in the age of cybercrimes even, the collection of reliable and comprehensive criminal justice statistics cannot be understated. Countries collect huge amount of data pertaining to crimes, criminal profiles and related socio-economic, political and geographic profile of different communities and the country as a whole in order to sustain its respective criminal justice system. In many cases, the governments undertake extensive research using quantitative or qualitative techniques or both in order to generate the data. During the research process, statistical analysis is required to transform all these data into useful information for effective criminal justice decision-making as well as policy research [2].

Administration of the Criminal Justice System

Organizations today, whether private or public, rely on information systems in order to effectively manage their business or functions. This is especially true in complex organizations. In the case of criminal justice systems, this may be undertaken by a multi-layered organization that requires reliable information processed using sound statistical analysis in order to effectively monitor and deliver criminal justice across a span of communities including the international community. Effective management engages the efficient use of resources in the administration of criminal justice programs. This requires sound, valid and reliable information throughout. All the information processed through data available allow criminal justice administrators to meet the objectives and goals of criminal justice programs, such as but not limited to public safety issues and apprehension of offenders, through a judicious allocation of resources to include personnel, budget, facilities and equipment, or the acquisition of any or combination of these. The availability of regular statistical reports integrating information on resources with the agency's concerns will be critical to responding to the problems that plague the implementation of many criminal justice programs. More importantly, statistics born out of careful statistical analysis serve to guide the problem-solving process.

Planning Process in Criminal Justice

In typical criminal justice systems, planning is an essential component in its administration. The planning process allows the

identification of alternative procedures for attaining a future goal. An example would be a court administrator who wants to reduce case processing time or develop a more efficient way to produce trial transcripts. Another example would be a prison administrator who wants to develop a better classification system for the allocation of resources to identified requirements and objectives.

The general planning process will consider many steps to include (1) analysis of the situation and identifying the problem, (2) setting out a clear statement of the objective or goal, (3) identifying and assessing alternative courses of action, (3) establishing the criteria for selecting the best approach, (4) implementing the programmed plan of action and (5) adopting a system of evaluation of the plan's implementation. Each of these planning steps requires information that sound statistical analysis can produce. All planning exercises will be futile without substantial and sound historical information and a sense of perspective that research can bring to the planning process.

Policy Research and Analysis

A third area of impact of statistical analysis on criminal justice research is in policy research and analysis. Policy analysis seeks to determine the effects of changes in policy, law or procedure or in the environment and to develop appropriate strategies when these anticipated effects occur. An example would be policy analysts looking at the effect of procedural changes on the criminal justice process such as when it undertakes research to assess the level of increase in judicial capacity when a change in case-filing procedures that reduces the average case-to-case period by five percent is adopted. Another would be looking at the effects of demographic shifts such as declining median population age on the crime rate. Still another example would be undertaking studies to determine the effect of crime rate shifts on the workloads of components of the criminal justice system [3].

Policy analysis can either be internal or external. By internal analysis, the research questions focus on self-initiated policy or procedural changes on an agency's operation. By external analysis, the focus can be on the effect on the agency coming from changes in another agency's policies and procedures or of changes in the environment. In both cases whether these are undertaken before or after a change is assessed, statistical analysis needs to be undertaken.

References

1. Garrison AH (2009) The Influence of Research on Criminal Justice Policy Making. *Professional Issues in Criminal Justice* 4: 9-21.
2. Lane D, Scott D, Hebl M, Guerra R, Osherson D (2009) *Introduction to Statistics*.
3. U.N. Department of Economic and Social Affairs Statistics Division (2003) *Manual for the Development of A System of Criminal Justice Statistics*.