Although each operational setting is unique, these extreme environments share the common features of active conflict, and wide territories outside the effective control of a governmental authority or law enforcement, where attackers can act with impunity. Due to complexities of life and consecutively getting the threats of security in the organisational environment, enterprises are continuously, looking for improved measures to manage their growing security infrastructure. A key tool to successful operational management is the understanding and proper use of statistical information. In security management, statistics are used in different capacities to widen the vision of management and increase its effectiveness with a wealth of information.
Statistics are used in a number of ways for the purpose of security functions:

(a) Budget requests and justification;
(b) Crime analysis;
(c) Programme evaluation;
(d) Programme monitoring;
(e) Risk analysis; and
(f) Security incident analysis.

The effective Security Manager uses statistics for ordinary administrative functions to advanced programme evaluation tasks. From the viewpoint of administration, the most common statistical information used by Security Managers is the budget. In the operational stage, Security Managers use statistics to ascertain the needs of security and evaluate the effectiveness of the programme. In general, internal security incident reports are used to determine the weaknesses of the security system and problematic areas, as well as to select crime prevention measures, to check out the effectiveness of the crime prevention steps. Crime statistics, available from local law enforcement agencies, are also utilised extensively in identifying the security risks. Road accident analysis involved staff or guests if the company is located in the vast area. Fire & Rescue analysis - lift stalled, false fire alarm, fire break out, etc.

Statistics are generally used within a security organisation to assist in the planning for future security needs. The use of information on the subject of crimes and other security incidents helps the Security Manager plan, select, and carry out suitable security measures that address the genuine, rather than perceived, risks of the facility. This, of course, assists in making budgetary decisions for the reason that the Security Manager, after evaluating the problem of crime, will have determined the most effective remedy comprising the cost of implementation and maintenance. Preferably, crime and security statistics will guide the security survey, help in the selection of prevention steps, evaluate program effectiveness, and alleviate the risks and the costs of those risks.
Statistics are often seen as boring and subjective and may be manipulated to meet the requirements of an organisation. Notwithstanding these criticisms, the effective Security Manager uses the best available data to assist in decision making. In seeking to meet this objective, Security Managers should carefully scrutinise the sources of statistical information and use only those that have a proven track record and are acceptable in court.

The Security Manager inputs the data into a spreadsheet format for convenient analysis, allowing him to easily sort information, track trends and patterns, and make reports for the security team. With the data in this format, sorting by date, time, and day of week will reveal any trends and patterns in the crimes. The use of statistics broadens beyond planning security at an existing facility. Statistical data may also be used to select and plan security at new positions.

**SELF-CHECK 12.1**

1. How do security managers calculate future security needs with statistical tools?

2. What are the uses of statistics in managing security and how?

**ACTIVITY 12.1**

Make a statistical report on the future security on any imaginary situation.

**12.3 INTERNAL STATISTICAL ANALYSIS**

There are numerous statistics that can be used to measure internal crime at a facility comprising:

(a) Confidential employee questionnaires
(b) Security reports
(c) Industry research
Using employee questionnaires (Figure 12.1) brings to light various crimes and security incidents that go otherwise unreported and will shed new light on issues of the security from the perspective of an employee. Employee questionnaires should be prepared using the most confidential available methods. Security reports also assist in measuring the extent of internal crime. This may be passive or active. Industry research, mainly in the retail industry, also assists in determining the degree of internal crime. Although if information is not accurate it does help the Security Manager gain an understanding of the contributing factors of internal crime.

![Employee Security Questionnaire](image-url)

**Figure 12.1:** Employee security questionnaire
12.4 EXTERNAL STATISTICAL ANALYSIS

Analysis of external crime data has numerous uses, likewise discovery of specific security problems; selection of countermeasures; evaluation of security programmes, policies, and procedures. The sources of external crime data include:

(a) Industry standards
(b) Law enforcement data
(c) News reports
(d) Security reports
(e) Victimisation information

From the above the primary sources are security reports and law enforcement data. Victimisation studies provide useful insight into the contributing factors that criminals use to select victims. News reports and industry standards are used to establish general trends in a geographic area and in particular industries. Demographic information is a secondary source of information because it is problematic on its own and should only be used in association with the security reports and crime data.

12.5 METHODOLOGY

As already mentioned, the methodology that is used to conduct crime analysis should, at minimum, match with case law on issues of foreseeability so that claims of negligent security can be avoided. Most states use crime data to decide if crime was anticipated and if the management is on the notice of crime. If the management is found to be on the notice of crime in the area, they often have a duty to protect against it. Although a predictability analysis is a good place to begin the process of crime analysis. To be more active, Security Managers require more data and analysis to reasonably track security lapses and implement effective responses.

The best method for analysing the true risk is to analyse internal security reports and verified police data that have been fed into a computer spreadsheet programme. Once this information is in a usable format, a number of basic and advanced statistical analyses can be performed. Forecasting, temporal analysis,
spatial analysis, and pattern analysis are the best tools for a security manager to work on.

(a) Forecasting is a useful technique that allows the Security Manager to mathematically project future crime by using the crime history of the organisation.

(b) Temporal analysis is the consideration of time periods when crimes occur. It allows the security manager to effectively allocate scarce security resources during peak time periods to reduce costs.

(c) Spatial analysis is also used to assist in the implementation of scarce resources but focuses on the locations within the facility where crimes are likely to occur.

(d) Pattern analysis is used to look for emerging crime trends from which security measures can be applied to end the trend or pattern. Both law enforcement data and security reports provide the necessary data to conduct these advanced statistical techniques.

After analysing the complete statistical data the Security Manager is well equipped to make decisions about future allocations of security resources. Most important, the information should be distributed to line security officers and supervisors so that they are aware of the threats and can work toward reducing the incidence and frequency of these crimes.

**SELF-CHECK 12.2**

1. How would you differentiate between internal and external security risk? Explain with an example.

2. What is the best method of identifying true security risk for an organisation?

**ACTIVITY 12.2**

You have been assigned a task of identifying the security loop hole in an organisation where manufactured goods (pendrives) are consistently missing before packaging. What would be your strategy for finding out and solving this problem?
12.6 INFORMATION FOR RISK ANALYSIS

Information is the pivot of security surveys and risk analysis. In addition to asset assessment, statistics such as crime information and security reports set the scope for a security survey. Prior to conducting a security survey, the Security Manager will have a thorough understanding of the crime and security incident history of the facility. This information guides the Security Manager as he conducts the survey and looks for crime incidences that can be blocked with security measures. Figure 12.2 shows an example of a temporal analysis for crimes and security incidents by time period.

<table>
<thead>
<tr>
<th>Time Period</th>
<th>Total Crime/Security Incident Per Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>0000-0359</td>
<td>4</td>
</tr>
<tr>
<td>0400-0759</td>
<td>19</td>
</tr>
<tr>
<td>0800-1159</td>
<td>18</td>
</tr>
<tr>
<td>1200-1559</td>
<td>83</td>
</tr>
<tr>
<td>1600-1959</td>
<td>105</td>
</tr>
<tr>
<td>2000-2359</td>
<td>31</td>
</tr>
<tr>
<td>Total</td>
<td>260</td>
</tr>
</tbody>
</table>

**Figure 12.2:** Temporal analysis - crimes and security incidents by time period, 1999-2001

Figure 12.3 shows an example of a spatial analysis map. Temporal analysis and spatial analysis map are ways of gathering information for risk analysis.
In present day corporate environment, it is very important for all departments to show most effective security arrangements, and this philosophy commonly applies to the security organisation because often their budget is among the first to be cut. Showing a Return on Investment (ROI) simply means that security measures are either paying for themselves or better, adding to the bottom line. ROI is important because it helps the Security Manager justify costs and obtain future budgetary allocations for the security purposes.
For example, crime analysis always pays for itself because it helps the Security Manager select the most appropriate security solutions for specific problems. Without it, the Security Manager has little to guide him or her toward effective solutions. More costly prevention measures such as closed-circuit television (CCTV) systems and personnel are harder to show ROI; however, over the long run these measures become relatively inexpensive when seen in the value of the financial turmoil that can occur from just one indefensible claim of negligent security.

**SUMMARY**

- Statistics are a key tool for achieving successful operational management.
- Statistics are used in a number of the Security Manager's functions comprising budget requests and justification, security incident and crime analysis, risk analysis, and program monitoring and evaluation.
- Both internal and external statistical analyses keep equal value for effective security management.
- The two primary sources of external statistics are security reports and law enforcement crime data.
- Statistics form the basis for security surveys and assist the security manager to gain Return on Investment.

**KEY TERMS**

- Return on Investment (ROI)
- Security Management
- Risk Information
- Statistical Analysis
- Security Needs
1. What are the uses of statistics for security management?

2. What are the two main sources of data used by Security Managers?

3. When conducting an employee security survey, what method should be used?


5. Explain return on investment with regard to security in a facility.