Mock Security Audit

Botium Toys is a small U.S. business that develops and sells toys. The business has a single physical location, which serves as their main office, a storefront, and warehouse for their products. However, Botium Toy’s online presence has grown, attracting customers in the U.S. and abroad. As a result, their information technology (IT) department is under increasing pressure to support their online market worldwide.

The manager of the IT department has decided that an internal IT audit needs to be conducted. She's worried about maintaining compliance and business operations as the company grows without a clear plan. She believes an internal audit can help better secure the company’s infrastructure and help them identify and mitigate potential risks, threats, or vulnerabilities to critical assets. The manager is also interested in ensuring that they comply with regulations related to internally processing and accepting online payments and conducting business in the European Union (E.U.).

The IT manager starts by implementing the National Institute of Standards and Technology Cybersecurity Framework (NIST CSF), establishing an audit scope and goals, listing assets currently managed by the IT department, and completing a risk assessment. The goal of the audit is to provide an overview of the risks and/or fines that the company might experience due to the current state of their security posture.

Your task is to review the IT manager’s scope, goals, and risk assessment report. Then, perform an internal audit by completing a controls and compliance checklist.

Then, select “yes” or “no” to answer the question: *Does Botium Toys currently have this control in place?*

**Controls assessment checklist**

| **Yes** | **No** | **Control** |
| --- | --- | --- |
|  |  | Least Privilege |
|  |  | Disaster recovery plans |
|  |  | Password policies |
|  |  | Separation of duties |
|  |  | Firewall |
|  |  | Intrusion detection system (IDS) |
|  |  | Backups |
|  |  | Antivirus software |
|  |  | Manual monitoring, maintenance, and intervention for legacy systems |
|  |  | Encryption |
|  |  | Password management system |
|  |  | Locks (offices, storefront, warehouse) |
|  |  | Closed-circuit television (CCTV) surveillance |
|  |  | Fire detection/prevention (fire alarm, sprinkler system, etc.) |

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*Does Botium Toys currently adhere to this compliance best practice?*

**Compliance checklist**

Payment Card Industry Data Security Standard (PCI DSS)

| **Yes** | **No** | **Best practice** |
| --- | --- | --- |
|  |  | Only authorized users have access to customers’ credit card information. |
|  |  | Credit card information is stored, accepted, processed, and transmitted internally, in a secure environment. |
|  |  | Implement data encryption procedures to better secure credit card transaction touchpoints and data. |
|  |  | Adopt secure password management policies. |

General Data Protection Regulation (GDPR)

| **Yes** | **No** | **Best practice** |
| --- | --- | --- |
|  |  | E.U. customers’ data is kept private/secured. |
|  |  | There is a plan in place to notify E.U. customers within 72 hours if their data is compromised/there is a breach. |
|  |  | Ensure data is properly classified and inventoried. |
|  |  | Enforce privacy policies, procedures, and processes to properly document and maintain data. |

System and Organizations Controls (SOC type 1, SOC type 2)

| **Yes** | **No** | **Best practice** |
| --- | --- | --- |
|  |  | User access policies are established. |
|  |  | Sensitive data (PII/SPII) is confidential/private. |
|  |  | Data integrity ensures the data is consistent, complete, accurate, and has been validated. |
|  |  | Data is available to individuals authorized to access it. |

Recommendations:

1. Data Encryption & Access Controls: Implement AES-256 encryption for cardholder data and PII/SPII to secure data at rest and in transit. Enforce least privilege, separation of duties, and role-based access control (RBAC) to limit unauthorized access.
2. Network Security: Deploy an Intrusion Detection System (IDS) to monitor for suspicious activity and threats. Use SIEM tools to efficiently monitor logs and anomaly detection which improves threat response.
3. Disaster Recovery & Backups: Develop a Disaster Recovery Plan (DRP) with procedures for data restoration and business continuity. Schedule automated backups of critical data, stored securely off site or in the cloud.
4. Password Policies & Management: Update password policy to follow NIST guidelines—minimum 12-character passwords with complexity requirements. Implement a centralized password management system with multi-factor authentication (MFA) to improve security and productivity.
5. Patch Management for Legacy Systems: Establish scheduled maintenance and patch management for legacy systems. Regularly perform vulnerability assessments and updates to mitigate risks from outdated software.

These measures will strengthen data confidentiality, integrity, and availability, while closing gaps in technical controls and organizational policies.